Final Environmental Assessment

County K Landing
Parking Improvement Project

St. Croix National Scenic Riverway

August 25, 2004

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1.0 PURPOSE AND NEED

1.1 Background

The St. Croix National Scenic Riverway (Riverway) was established in 1968 as a component of the National Wild and Scenic Rivers System and is a unit of the National Park Service (NPS). The park includes 103 miles (166 km) of the St. Croix River between the Xcel Energy hydroelectric dam at St. Croix Falls, Wisconsin and the dam at Gordon Flowage. It also includes all 99 miles (159 km) of its tributary the Namekagon River in northwestern Wisconsin. The Lower St. Croix National Scenic Riverway was established in 1972 and added the final 52 miles of the St. Croix River downstream from the dam at St. Croix Falls (Figure 1). The boundary of the Riverway includes the adjacent uplands averaging one-quarter mile from the shoreline. Much of the St. Croix River forms part of the border between the states of Minnesota and Wisconsin.

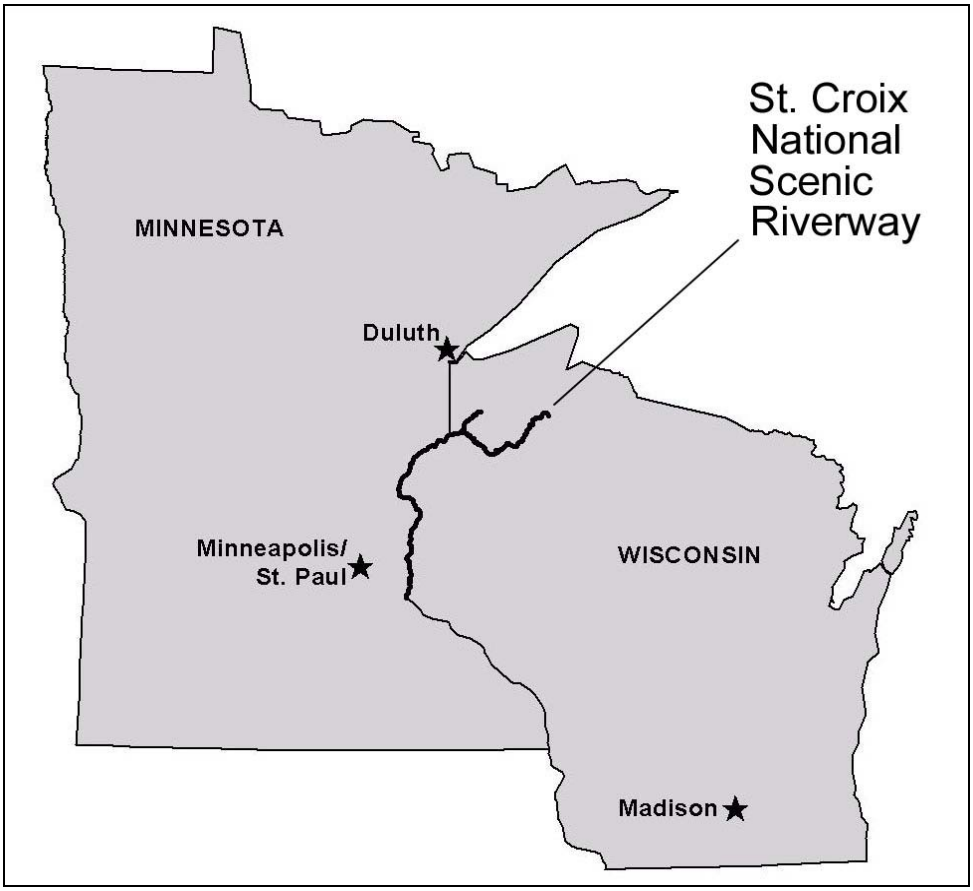

Figure 1. Map showing location of St. Croix National Scenic Riverway in Minnesota and Wisconsin.

The park receives an estimated 500,000 visitors annually. The primary visitor use along the Riverway
occurs on the water surface in the form of boating and canoeing. It is estimated that in 1990 approximately 14,000 visitors used trails along the Riverway for the purpose of hiking, hunting,

fishing access, cross-country skiing and nature observation. Recreational use is expected to increase given the close proximity of the Riverway to Minneapolis-St. Paul, Minnesota, a heavily populated metropolitan area.

The National Park Service strives to balance the need for access to the rivers with the need to protect the significant values for which the St. Croix National Scenic Riverway was established. These values of significance are defined by the General Management Plan, Upper St. Croix and Namekagon Rivers (NPS 1998) as:

> "The upper riverway is significant because:
>
> > The St. Croix River is one of the last undisturbed, large floodplain rivers in the upper Mississippi River system.
> >
> > The riverway is an unrivaled combination of exceptional natural resources and scenic, aesthetic, cultural, and recreational values in proximity to major urban population centers in the upper Midwest.
>
> Specifically, the riverway has a number of outstandingly remarkable *natural resource values*:
>
> > Ninety percent of the upper riverway retains the essential qualities of a free-flowing river in spite of the presence of several small dams and one large dam.
> >
> > The high quality of the water of the Upper St. Croix river resulted in both Wisconsin and Minnesota designating it as "outstanding resource waters," which is the highest designation possible.
> >
> > The St. Croix National Scenic Riverway is a protected north-south corridor that serves as a refuge for large populations of diverse flora and fauna, including federally and state-listed threatened and endangered species.
> >
> > The St. Croix River contains the greatest diversity of mussels in the upper Mississippi River System.

In addition the riverway has numerous outstandingly remarkable *scenic, aesthetic, cultural and recreational values*:

> > The Upper St. Croix combines high-quality river canoeing with multiday canoe camping along 200 miles of a scenic, publicly managed and accessible, and relatively undeveloped river shoreline.
> >
> > As they travel the river, visitors can observe the convergence of three terrestrial biological communities (prairie, hardwood and warm-water communities.
> >
> > The St. Croix River has a national reputation for excellent smallmouth bass fishing and the Namekagon River for trout fishing.
> >
> > Visitors have extended opportunities to experience the solitude and beauty inherent in the riverway's exceptional natural resources.
> >
> > The St. Croix and Namekagon rivers, a traditional corridor between the Great Lakes and the Mississippi Valley, retain numerous archeological and historic resources that reflect centuries of human use of a riverine environment.

1.2 Problem Statement

There are nearly 50 landings used as access points for canoes and boats along the St. Croix and Namekagon rivers including County K Landing on the Namekagon River (Figure 2) in west-central Washburn County, Wisconsin. County K Landing is located in Trego Township, Township 40 North - Range 12 West in the NE 1/4 of Section 18. County K Landing is owned and managed by the National Park Service.

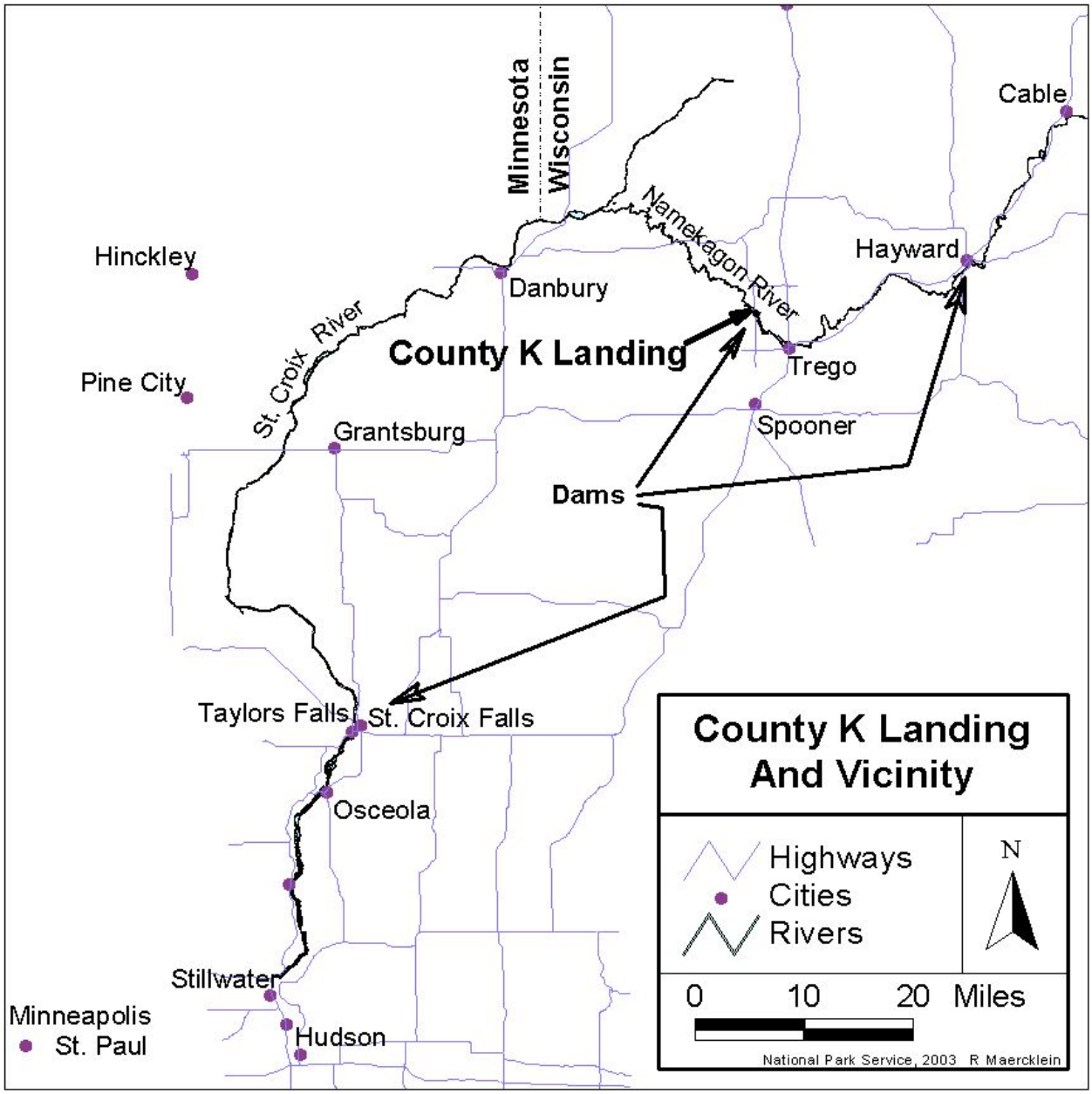

Figure 2. County K Landing locator map. Note locations of dams on the St. Croix and Namekagon Rivers in relation to County K Landing.

The landing includes an unpaved ramp for launching canoes, an unpaved and unorganized parking area for approximately 20 cars, an accessible vault toilet, a small information kiosk and a picnic table (Figure 3, Figure 4, Figure 5 and Figure 6). The parking area is visible from the river and storm water from the parking lot drains directly to the river (Figure 5). The asphalt access to the parking area (Figure 6) was recently modified and installed in 2002 in conjunction with the replacement of the County K highway bridge over the Namekagon River.

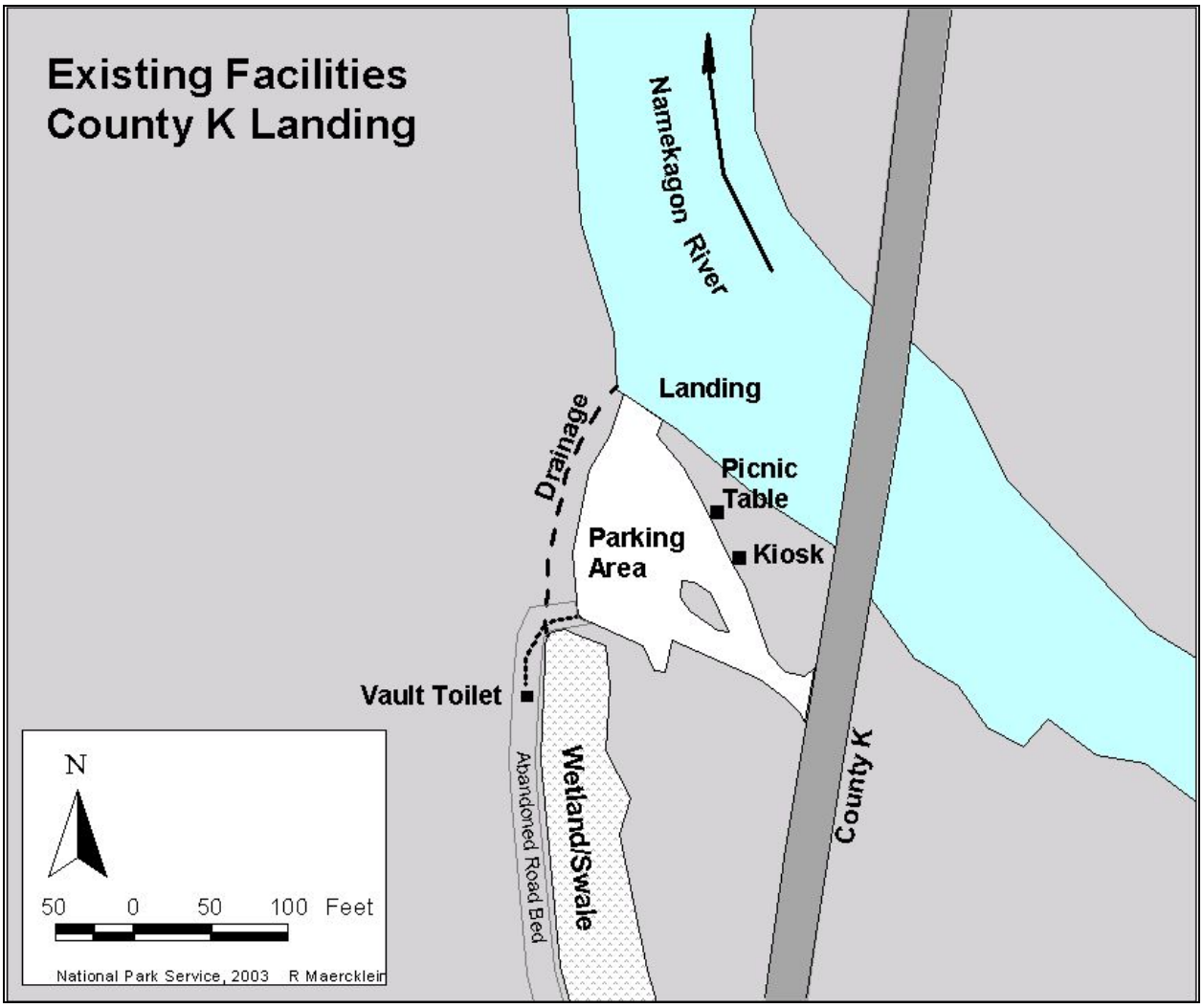

Figure 3. Existing facilities at County K Landing.

This portion of the river is designated by the Riverway's General Management Plan (NPS 1998) as "near-primitive northwoods". Here signs of humans and development should be at a minimum. All of the above facilities, with the exception of the vault toilet are in full view from the river. Currently there is little or no screening of the parking and picnic areas.

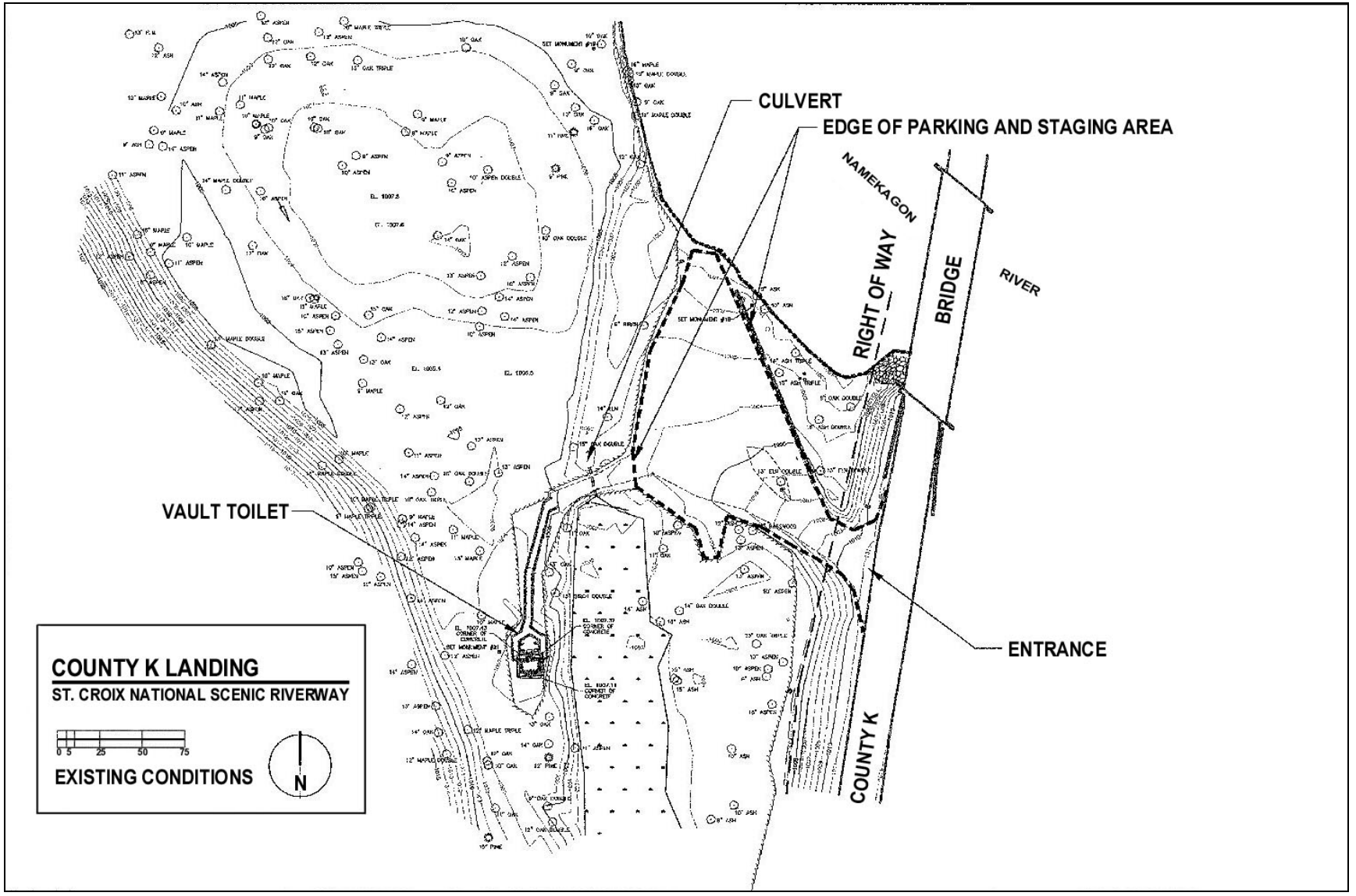

Figure 4. Existing facilities at County K Landing showing individual trees and one-foot interval contour lines.

Runoff from the unpaved parking lot goes directly into the Namekagon River through the canoe launch area. This allows sediments and pollutants associated with automobiles to wash directly into the river. The amount of these sediments and pollutants has not been measured or estimated but a small depositional delta is visible at the water's edge.

A combination of conditions makes this landing one of the most heavily used put-in point for canoeing on the Namekagon River. This landing is located along water that is sufficiently deep and fast enough for excellent canoeing. Despite the good current, rapids are gentle and do not exceed class 1 along this stretch of river, further enhancing the canoeing enjoyment. This portion of the river is also fairly remote, with few signs or sounds of human intrusion or development. Indeed, only five buildings and three bridges can be seen from the river in the 35 mile stretch of river from County K to the confluence with the St. Croix River. Finally, this landing is located just downstream from the Xcel Energy Dam at Trego Flowage, meaning it is the uppermost navigable point in the river between here and the Xcel Energy Dam at St. Croix Falls, Wisconsin, 113 miles downstream (Figure 2). Boaters traveling downstream past these dams must portage their watercraft and gear, an option few visitors consider.

Figure 5. Unpaved landing at County K. Note drainage through the driving surface leading to a small depositional delta in the river.

Much of the visitation at the St. Croix National Scenic Riverway comes from the Minneapolis-St. Paul metropolitan area, less than 150 miles southeast of County K Landing. With the rapid growth in the Minneapolis-St. Paul metropolitan area and adjacent counties, it is expected that visitation at St. Croix National Scenic Riverway, and use of County K Landing, will continue to grow.

On busy summer weekends as many as 100 visitors may use this landing per day. Visitor use has typically been estimated by counting the number of vehicles at various parking lots. National Park Service staff and park neighbors anecdotally report as many as 40 vehicles parked at the parking lot and on the roadside during the height of the season. The National Park Service conducted direct counts at selected landings between 1999 and 2003 including this stretch of the Namekagon River in 1999 and 2002. At least 23 boats were launched here on July 1, 1999 (unpublished National Park Service data) as counted by the number of boats passing or ending at Whispering Pines Landing, the first landing downstream from County K Landing. In addition, a small number of visitors, 19, entered the river here that same day floating on inner tubes. Similar numbers were found in 2002.

Figure 6. Entrance to parking area off County K. Note the guardrail leading to the bridge over the Namekagon River immediately adjacent to and left of the entrance.

Nine river accessible campsites are located on the in the 10 mile stretch between County K Landing and the next landing downstream at Whispering Pines Landing (Figure 7). Camping is allowed at 10 locations in the next 10 mile stretch between Whispering Pines Landing and McDowell Bridge Landing. Fourteen campsites are available at Howell and West Howell Landing resulting in a total of 22 campsites at those 10 locations in that stretch of river. Data was collected on weekends in 2000 to determine the rates of occupancy at these campsites (Table 1 and Table 2). On the average, only 2 campsites or 22% of the locations/campsites were occupied in the 10 mile stretch of river downstream from County K. In contrast, the next 10 mile stretch averaged 51% occupancy with a peak at 80% of locations or 82% of all campsites. Surveys were taken on Fridays and the following Saturdays. Higher occupancy on Fridays (26%) compared to Saturdays (15%) between County K

and Whispering Pines probably reflects those visitors arriving later in the day on Friday than on Saturday. This data also suggests that except for Fridays most visitors launching at County K do not stop to camp in the first 10 miles of river.

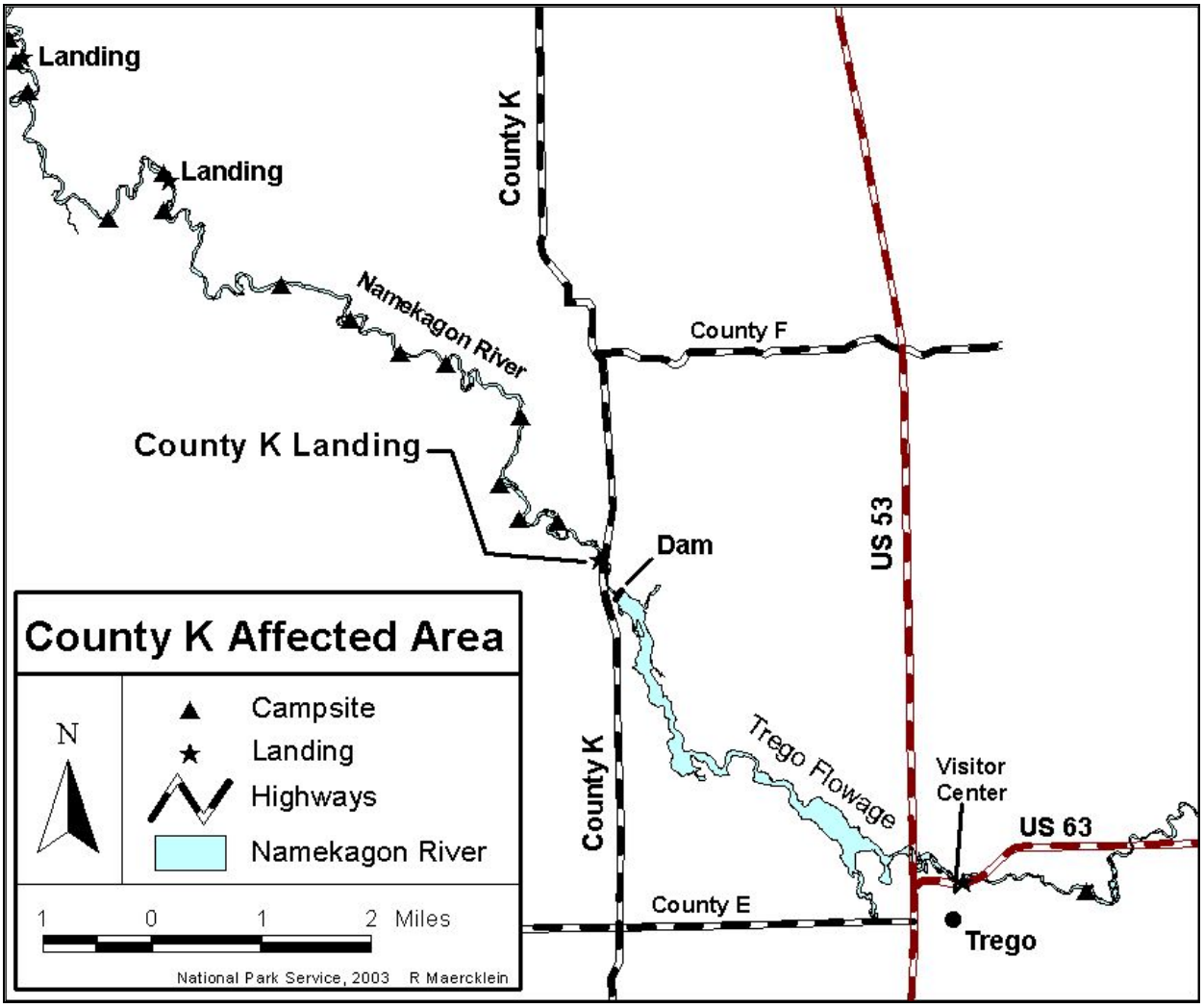

Figure 7. Map of County K Landing, surrounding area and campsites on the Namekagon River.

Table 1. Occupancy data from 2000 for County K Landing to Whispering Pines Landing. Numbers come from unpublished National Park Service data.

County K to Whispering Pines			
Date	**Occupied**	**Available**	**% Occupied**
06/02/2000	2	9	22%
06/03/2000	1	9	11%
07/07/2000	1	9	11%
07/08/2000	1	9	11%
07/28/2000	4	9	44%
07/29/2000	2	9	22%
09/02/2000	3	9	33%
Total	14	63	22%

Table 2. Occupancy data from 2000 for Whispering Pines Landing to McDowell Bridge Landing. *Note that there are two locations that include 14 separate campsites. For example, on 5/26/2000, campers occupied 5 locations but 7 campsites were in use. Numbers come from unpublished National Park Service data.

Whispering Pines to McDowell						
Date	**Occupied**	**Available**	**% Occupied**	**Occupied***	**Available***	**% Occupied***
05/26/2000	5	10	50%	7	22	32%
05/27/2000	6	10	60%	12	22	55%
06/30/2000	1	10	10%	7	22	32%
07/01/2000	8	10	80%	10	22	45%
07/21/2000	5	10	50%	7	22	32%
07/22/2000	7	10	70%	18	22	82%
08/26/2000	4	10	40%	4	22	18%
Total	36	70	51%	65	154	42%

Parking spaces at County K Landing are not marked and cars often park haphazardly within the lot resulting in a reduction of available parking. Temporary painted lines on the gravel/dirt surface have helped but it still leaves a maximum of 15 - 18 cars in the lot. Because space is limited, the narrow unpaved shoulders of County Highway K are often used by visitors for overflow parking. As many as 30 cars have been reported to park along the highway using both sides of the road, effectively reducing it to a single lane. The speed limit here is 55 mph and this creates a potentially dangerous safety hazard. The average daily traffic at County K bridge in 1999 was 1300 vehicles. In 2002 it had increased to 1420 vehicles. This level is forecast to increase to 1910 vehicles in 2022. Currently, there are no "No Parking" signs along the road here but the county has stated that they were willing to post and enforce a no parking zone here. The Washburn County Sheriff's Department has acknowledged the problems here and has endorsed in a letter an increase in parking area at this site to reduce the safety hazard.

The entrance to the parking area was elevated approximately two feet in 2001 due to replacement of the bridge over the river. The resulting entrance is narrow with steep drops at the edges. Vehicles with trailers have difficulty due to the narrow entrance. Congestion in the small parking lot also contributes to poor traffic flow and vehicles have been observed stopped in the entrance with their trailer still on County K creating a significant safety hazard. In addition there are poor sight lines when approaching the entrance from the north on County K and vehicles have limited time to react to pedestrians or vehicles exiting or entering the parking area. Again, the Washburn County Sheriff's Department has endorsed moving the entrance farther from the bridge. Currently the guardrail for the bridge terminates at the entrance to the parking area.

The parking problems at County K Landing have long been recognized by National Park Service district personnel. This parking problem has been the number one priority for the Namekagon District Team for a number of years. The district team makes recommendations to the National Park Service's management team. Preliminary drawings and estimates for a new, expanded parking lot were submitted in 2000 for funding through the National Park Service. The project was funded for $282,700 on June 10, 2003 with an expiration date of December 2004.

Species of concern, including threatened and endangered species, are present but are not expected to be impacted. Similarly, it is expected that there will be no impacts to streamflow, land use, land values, floodplains, flood elevations, socioeconomics, low income or minority populations, cultural resources or ethnography and are therefore dismissed from further analysis of impacts. Cultural resources and threatened and endangered species are discussed below to but are also dismissed from further analysis of impacts.

Four species of animals, bald eagle (*Haliaeetus leucocephalus*), gray wolf (*Canis lupus*), winged mapleleaf mussel (*Quadrula fragosa*) and Higgins' Eye pearly mussel (*Lampsilis higginsi*) are present within the Riverway and federally listed as endangered or threatened. Ten other species known to exist within the Riverway are currently proposed for federal listing, and 78 other species of amphibians, birds, fish, insects, mammals, molluscs, plants, and reptiles are presently listed as endangered, threatened, or of special concern by the states of Minnesota and/or Wisconsin. The nearest bald eagle nests active in 2003 are located approximately 6 miles downstream and 4 miles upstream of the proposed project. As many as eight wolf packs have been located along the Riverway. County K Landing is located at the edge of 'probable wolf range' with the nearest known pack territory located approximately 6 miles northeast of County K Landing (WDNR 2004). However, the Riverway can provide good cover for wolves and may function as a travel corridor for migrating wolves. None of these species are known to breed or reside within the affected area, nor are they expected to be affected by this project.

There are seven state listed animal species that breed or reside within the affected area. A pair of ospreys (*Pandion haliaetus*), a state threatened species, nests on an artificial nesting platform a short distance upstream from the landing. This nest is active between approximately April 15 and July 15. The purple wartyback (*Cyclonaias tuberculata*) is a state endangered mussel known to inhabit the Namekagon River within 1/4 mile of County K. Four listed fish are thought to inhabit the river here. These species are: lake sturgeon (*Acipenser fulvescens*) - special concern; gilt darter (*Percina evides*) - threatened; river redhorse (*Moxostoma carinatum*) - threatened, and; greater redhorse (*Moxostoma valenciennesi*) - threatened. The remaining species is a dragonfly listed as special concern: splendid Clubtail (*Gomphurus lineatifrons*). Reduced water quality is the greatest threat to these species here. With care taken in this project, none of the above mentioned species are expected to be adversely impacted by this project.

A 1992-1993 field survey for rare plants in the Riverway found no state or federally listed plant species in the proposed project or surrounding area and the area was generally considered unlikely to contain rare species. A field check for rare or listed plant species was conducted within the proposed project area by a National Park Service biologist on July 9, 2003. This trip and several other visits to the area in different seasons has produced no rare or state or federally listed plant species located at

or in close proximity to the proposed project area. There should be no effect on any state or federally-listed or federally-proposed species.

Numerous prehistoric archeological sites are found along the St. Croix National Scenic Riverway. These sites illustrate human occupation of the area from the Archaic and Woodland through the Historic period. Two sites in the Riverway are listed on the National Register of Historic Places. An archeological survey was conducted by the National Park Service Midwest Archeological Center in 2000 prior to planning for this project. A field trip report dated November 10, 2000 discusses the methods, coverage area and what was found. No sign of an archeological site was found and the opinion was that there were no obvious physical features in the immediate area that would suggest there might be a high probability of prehistoric or early historic use of this site. The 2000 survey covered the available expansion area west and northwest of the existing parking area (Figure 8, page 16) but not the available expansion area south of the existing parking lot. However, due to the lack of obvious physical features, it is thought that an archeological site here is also unlikely. Therefore, it is unlikely that any of the alternatives will have an impact upon archeological, historical or other cultural resources. The St. Croix and Lac Courte Oreilles bands of the Chippewa concurred that there are no known archeological or historical resources here to be affected at this site.

Summarizing, the parking area at the popular County K Landing is insufficient to handle current or expected future visitation at this site, resulting in potentially dangerous situations for visitors parking on the shoulders of a moderately busy narrow highway. In addition, most of the facilities are in full view of the river, diminishing the scenic quality of the Riverway. Finally, sediments and pollutants associated with automobiles are washed into the river through storm events. This Environmental Assessment looks at alternatives to address these concerns.

1.3 Purpose and Need:

The need is to address the current safety hazards associated with parking at this heavily used landing. In addition, the amount of sediments and pollution washing into the river from this landing is uncontrolled. Finally, the visibility of these facilities from the river needs to be addressed. The purpose of this project is to provide safe, accessible facilities (parking area, landing, toilets, and picnic area) for visitors to the Riverway, to reduce the visual impacts of the facilities at the landing, enhance the scenic view from the river, and to reduce or eliminate the sediments and pollution from parking lot runoff.

2.0 ALTERNATIVES

2.1 No Action Alternative

The Proposal: Under this alternative no changes to current facilities would take place (Figure 3 and Figure 4). Visitors would continue to use the shoulders of County Highway K as overflow parking. The dangerous safety hazard of this parking would remain. Safety hazards due to congestion and poor traffic flow within the parking lot would remain. The impacts to the scenic resources as seen from the river would remain. Sediments, pollutants and runoff from the parking lot would continue

to flow directly into the river (Figure 5). No changes would be expected to the plant or wildlife community.

2.1.1 Canoe Landing

The canoe landing would receive occasional maintenance and grading as needed under the No Action Alternative. This work would be sporadic and may occur only once every 5 - 10 years. Cars would continue to have direct access to the river and may at times drive into the water. This traffic would continue to impact soils through compaction and erosion through spinning of wheels. The area denuded of vegetation would likely remain the same or possibly increase in size. Runoff from the parking area will continue to run directly into the river carrying pollutants and sediments.

2.1.2 Parking Areas and Roads

The existing parking area would remain the same. The parking area would remain in full view from the river impacting scenic resources. Uncontrolled parking would likely limit the amount of available parking space. The haphazard parking would likely contribute to congestion and unsafe conditions within the parking area, canoe landing area and on the adjacent County Highway K. The shoulders of this highway would continue to be used as overflow parking, leading to unsafe conditions for visitors and travelers on the highway.

2.1.3 Restroom Facilities

An accessible vault toilet is located west of the current parking area. There would be no change in the existing restroom facilities or maintenance schedule.

2.1.4 Day Use/Picnic Area

A picnic table is currently located between the landing and the bridge along with an information kiosk. These would remain in the same location and continue to be maintained as needed.

2.2 Preferred Alternative

The Proposal: Two general areas are available for development at this site. These are located immediately south of the existing parking area and west and northwest of the existing parking area (Figure 8). The existing facilities would be replaced with new parking areas, a staging area for the canoe launch, a rehabilitated launch area, and a new access road approximately 130 feet south of the current parking lot entrance (Figure 9 and Figure 10). A parking area for approximately 25 vehicles and approximately six oversized vehicles or vehicles with trailers would be added west of the existing parking area. A turn-around loop would be incorporated into this parking area. Vehicle access to this parking area would require some fill across the existing drainage and the installation of a longer culvert. Less than 0.005 acre of this drainage would be replaced by the culvert and fill. The existing parking area would be redesigned as a staging area for the canoe launch. Here, visitors would stop temporarily to load or unload boats from vehicles. An accessible boardwalk and path would direct visitors to the launch from the parking lot. A small bridge approximately 10 feet long would cross the drainage from the wetland. The recently graded and paved parking lot entrance would be demolished and planted with native vegetation and a new access road would be constructed between County Highway K and the existing wetland.

2.2.1 Canoe Landing

The canoe landing would remain in its current location. Compacted soils would be broken up and seeded with a mix of native and non-native grasses in the expected walking area. Native plant seeds would be used at the edges where impact from foot traffic is not expected. Because cars would no longer be able to drive to the water's edge, it is expected that vegetation would grow through much of this area and act as a buffer to catch or slow runoff from the launch area.

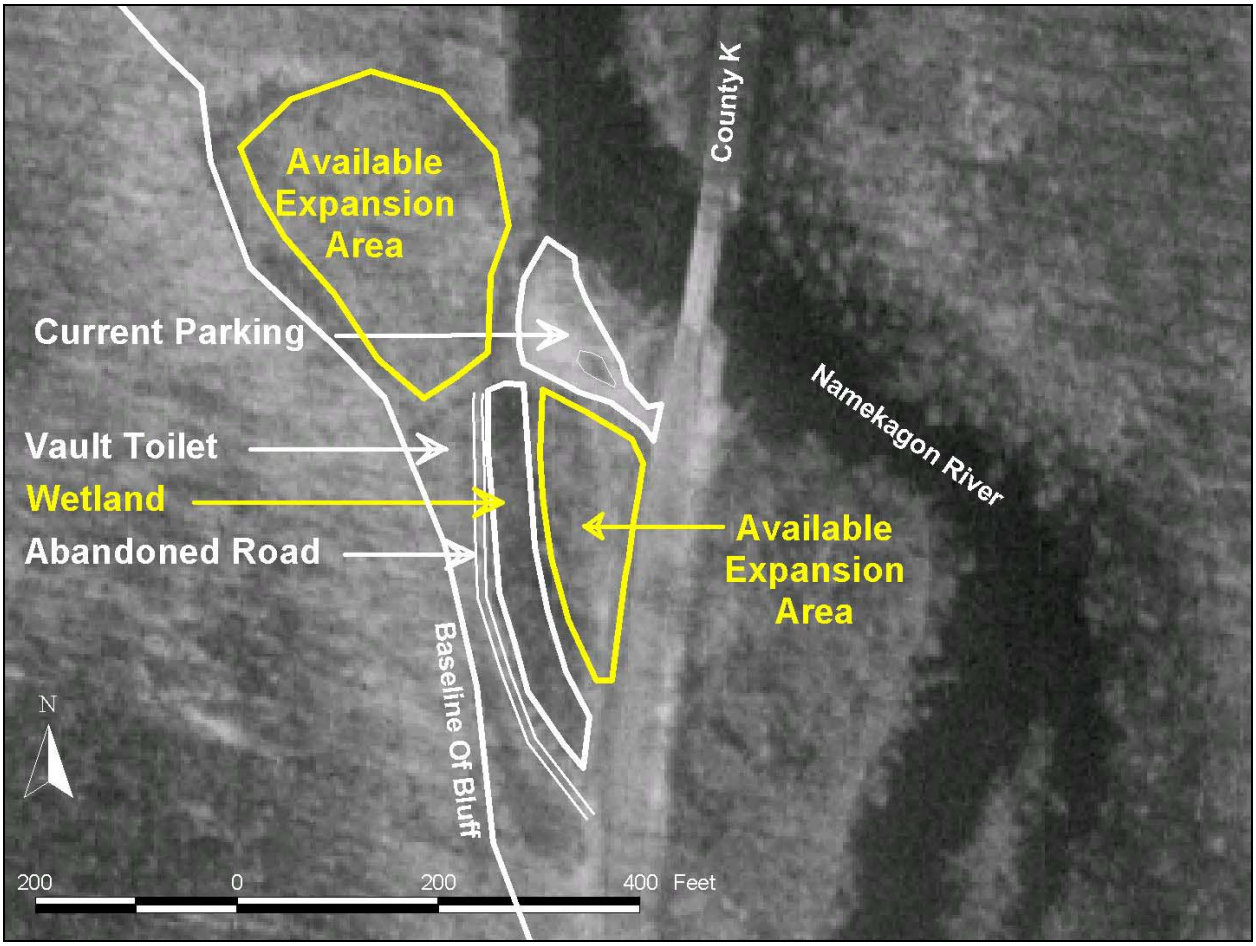

Figure 8. Aerial photograph showing existing conditions and available expansion areas.

2.2.2 Parking Areas and Roads

The existing parking area would be converted to a loop drive and staging area for loading and unloading vehicles. Inside the loop compacted soils would be broken up covered with topsoil. This in turn would be planted with a mix of native plants containing grasses and forbs. Some shrubs or trees may be added for screening and visual enhancement.

A new parking area would be constructed west and northwest of the current parking area. This would consist of a large turn-around loop with approximately 25 spaces in three locations for diagonal parking along the loop. Part of the loop would also contain approximately 6 pull-through spaces for oversized vehicles and/or vehicles with trailers. Native seeds and plants would be used to rehabilitate disturbed areas in the island(s) within the loop following

construction. To the extent possible, existing trees and native vegetation within this loop would be saved.

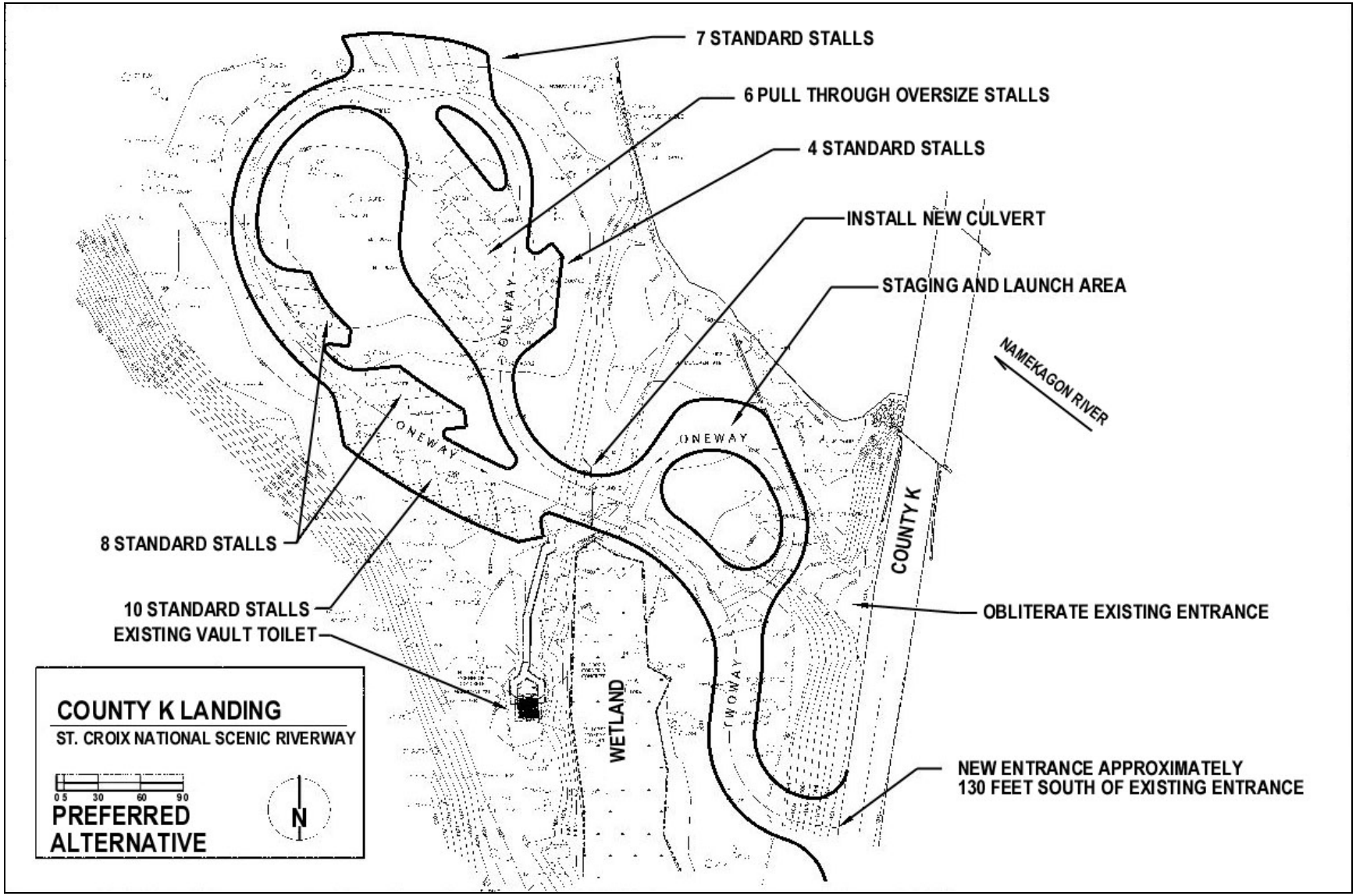

Figure 9. Preferred Alternative preliminary drawing showing existing trees and one-foot interval contour lines.

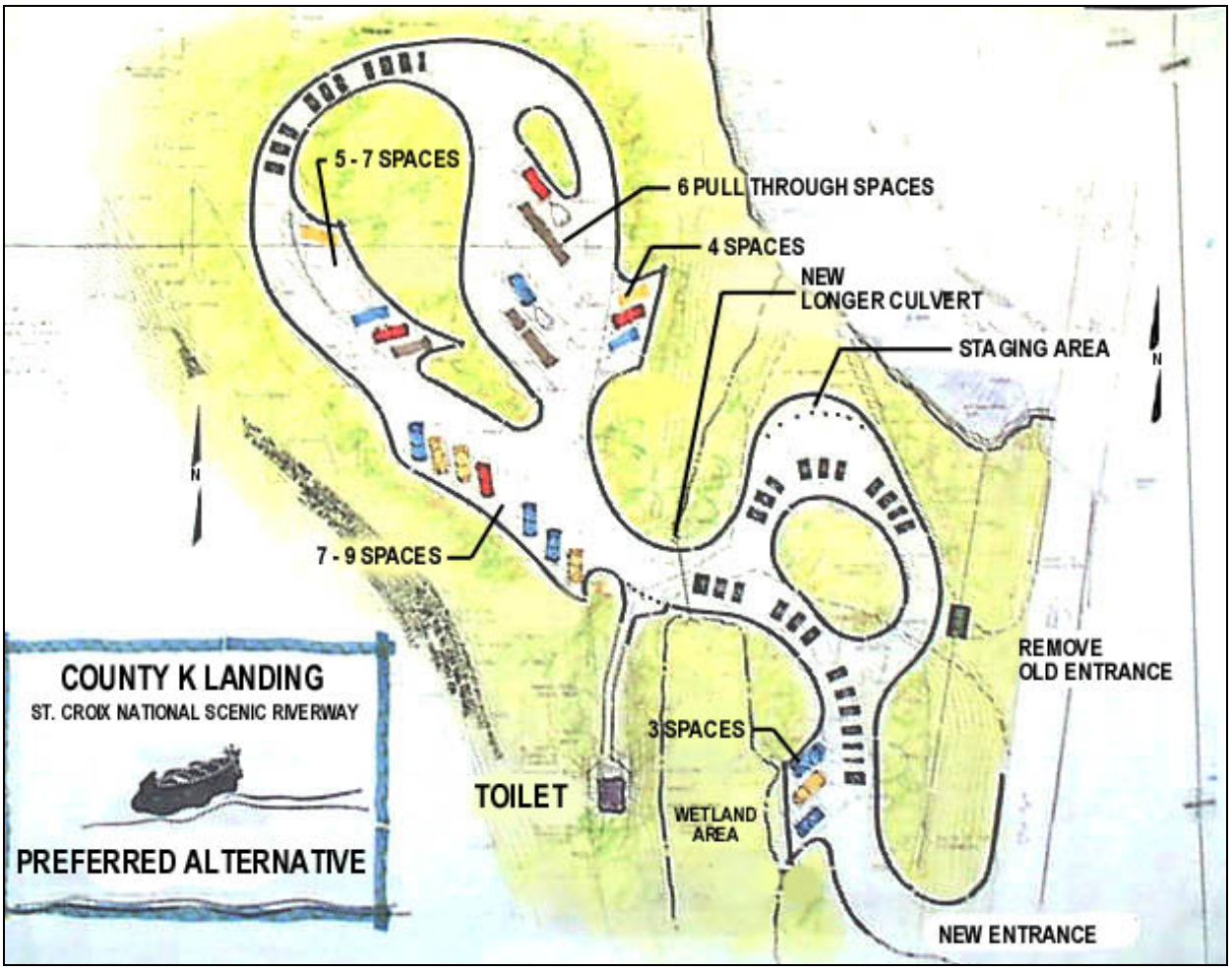

Figure 10. Preliminary drawing of the Preferred Alternative. This conceptual drawing was modified and selected as the Preferred Alternative as seen in Figure 9.

The current entrance to the parking lot would be replaced by a new entrance approximately 130 feet south of the current entrance. This would move the entry and exit point farther from the bridge reducing a safety concern of the county sheriff's department. The parking and staging areas would be accessed by a new short road constructed between County Highway K and a small wetland located to the west. At the current entrance, asphalt and fill would be removed and compacted soils would be broken up and covered with topsoil. A mix of native plants would be seeded and/or planted with grasses and forbs planted in the highway right-of-way.

The road connecting the staging and parking areas would cross the drainage from the wetland at the existing foot path to the vault toilets. Approximately 20 feet of the drainage (less than 0.005 acre) would be filled and a longer culvert installed. This would be installed and engineered to prevent altering the water level pattern in the wetland. Best management practices would be followed to limit erosion during construction.

All driving surfaces would be paved and sloped to channel water to existing or constructed vegetated buffers and catchments before release to the river. Best management practices would be implemented at all stages of construction to limit sedimentation into the river.

2.2.3 Restroom Facilities

An accessible vault toilet is located west of the current parking area. There would be no change in the existing restroom facilities.

2.2.4 Day Use/Picnic Area

One picnic table is currently located between the landing and the bridge. A picnic table would be provided but its location has not been determined. It would likely remain in the existing location. A new bulletin board would be installed at the west side of the canoe launch. The existing information kiosk would be moved and placed adjacent to the new bulletin board.

2.3 Alternative 1

The Proposal: The existing parking would be replaced with new parking and staging areas (Figure 11 and Figure 12). A parking area for approximately 23 vehicles would be added south of the existing parking area between County Highway K and the existing wetland. An additional parking area for oversized vehicles and vehicles with trailers would be located east-northeast of the existing parking lot and would incorporate approximately 5 pull-through stalls, and a turn-around loop. Access to this parking area would require some fill across the existing drainage and a longer culvert to be installed. Less than 0.005 acre of this drainage would be replaced with a culvert and fill. The existing parking area would be converted to a staging area to access the landing.

2.3.1 Canoe Landing

The canoe landing is identical to that in the preferred alternative (Section 2.2.1).

2.3.2 Parking Areas and Roads

The existing parking area would be converted to a loop drive and staging area for loading and unloading vehicles. Inside the loop compacted soils would be broken up covered with topsoil. This in turn would be planted with a mix of native plants containing grasses and forbs. Some shrubs or trees may be added for screening or visual enhancement.

A new parking area would be constructed south of the current parking area between County Highway K and a small wetland. This mostly rectangular parking lot would accommodate approximately 23 cars. A second parking area and turn-around loop would be constructed west northwest of the existing parking area. This parking area would accommodate approximately 5 pull-through spaces for oversized vehicles and/or vehicles with trailers. Native seeds and plants would be used to rehabilitate disturbed areas in the island within the loop following construction. To the extent possible, existing trees and native vegetation within this loop would be saved.

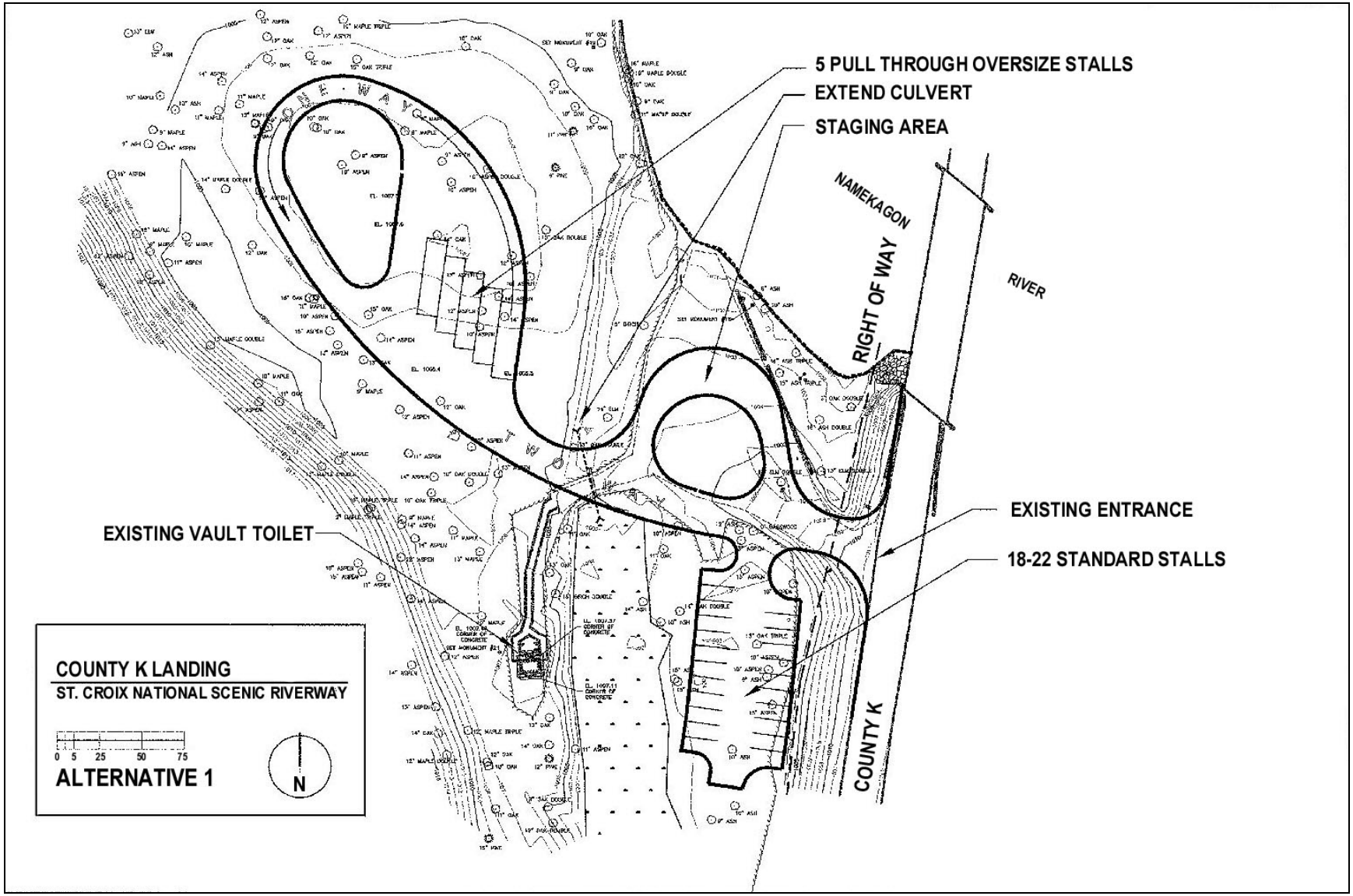

Figure 11. Alternative 1 preliminary drawing showing existing trees and one-foot interval contour lines.

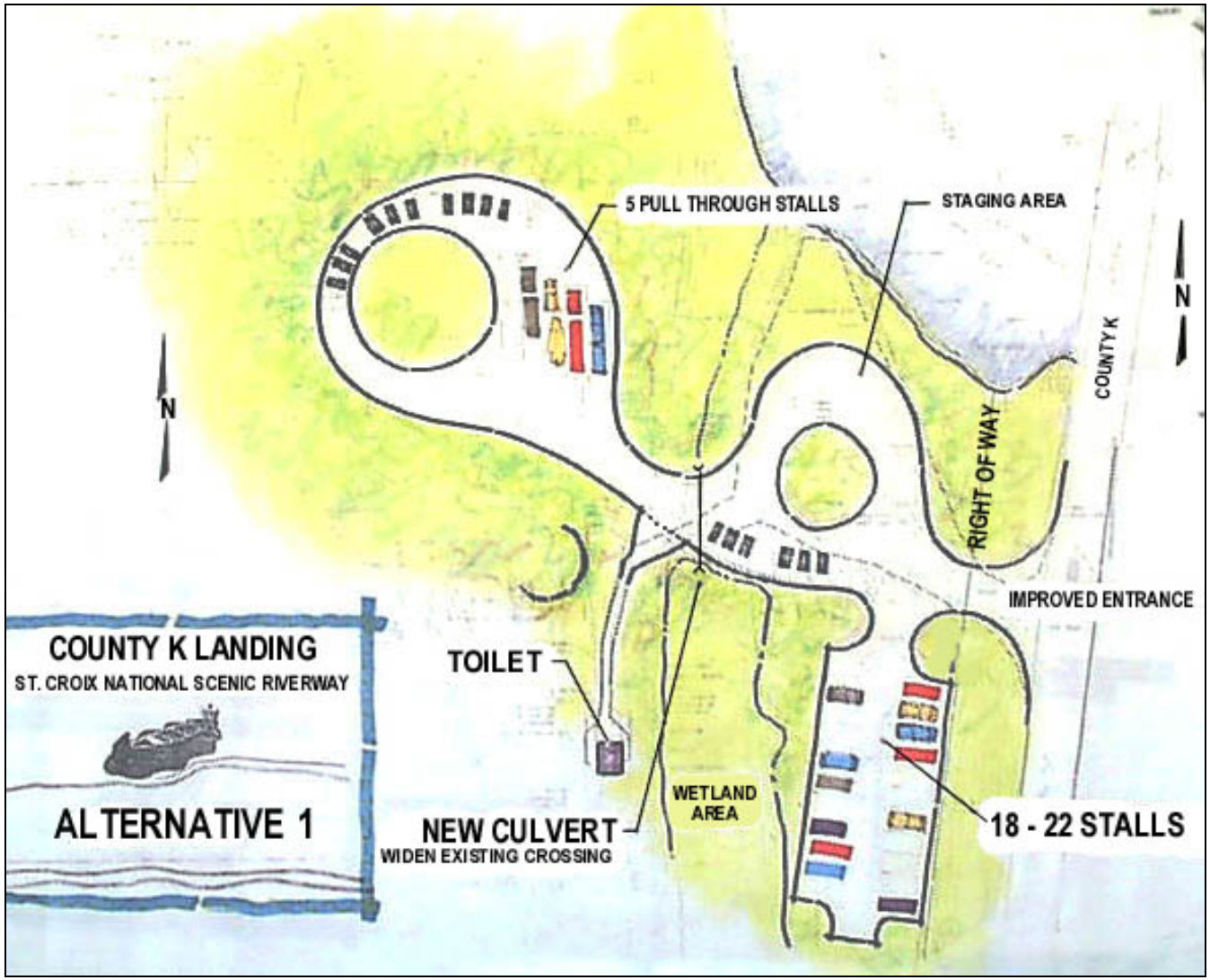

Figure 12. Preliminary drawing of Alternative 1. This conceptual drawing was slightly refined for inclusion with trees and contour lines as seen in Figure 11.

Alternative 1 uses the existing entrance off County Highway K but would improve its grade and drainage.

The road connecting the staging and parking areas would cross the drainage from the wetland at the existing foot path to the vault toilets. Part of the drainage would need to be filled and a longer culvert installed. This would be installed and engineered to prevent altering the water level pattern in the wetland.

All driving surfaces would be paved and sloped to channel water to existing or constructed vegetated buffers and catchments before release to the river.

2.3.3 Restroom Facilities

The restroom facilities would be identical to that described in the preferred alternative.

2.3.4 Day Use/Picnic Area

One picnic table is currently located between the landing and the bridge. A picnic table would be provided but its location has not been determined. It would likely remain in the existing location.

2.4 Alternative 2

The Proposal: The existing parking would be replaced with a new parking area, a new access road off County Highway K, and conversion of the current parking area to a staging area (Figure 13 and Figure 14). As in the Preferred Alternative, a parking area for approximately 22 vehicles would be added west and northwest of the existing parking area. There would also be pull-through parking for approximately 6 oversized vehicles and vehicles with trailers within the same loop. The entrance to the parking area would be constructed along an abandoned road west of County Highway K. This would require relocation of the existing vault toilets to the existing entrance area. The existing parking area would be converted to a staging area to access the landing. Access to this launch area would require some fill across the existing drainage and a longer culvert to be installed. Less than 0.005 acre of this drainage would be replaced by the culvert and fill.

2.4.1 Canoe Landing

The canoe landing is the same as that in the preferred alternative (Section 2.2.1).

2.4.2 Parking Areas and Roads

The existing parking area would be converted to a loop drive and staging area for loading and unloading vehicles. Inside the loop compacted soils would be broken up covered with topsoil. This in turn would be planted with a mix of native plants containing grasses and forbs. Some shrubs or trees may be added for screening or visual enhancement.

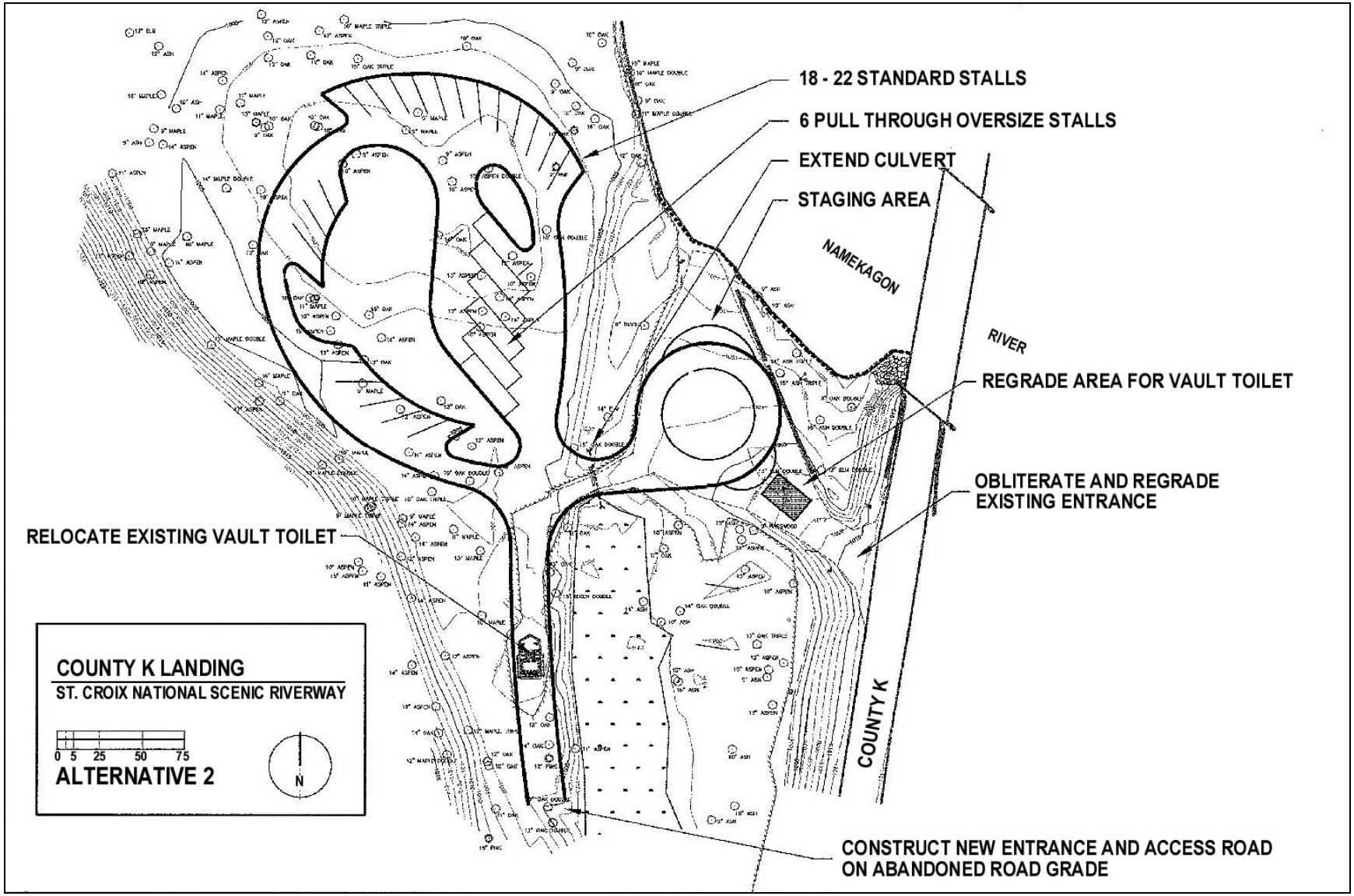

Figure 13. Alternative 2 preliminary drawing showing existing trees and one-foot interval contour lines.

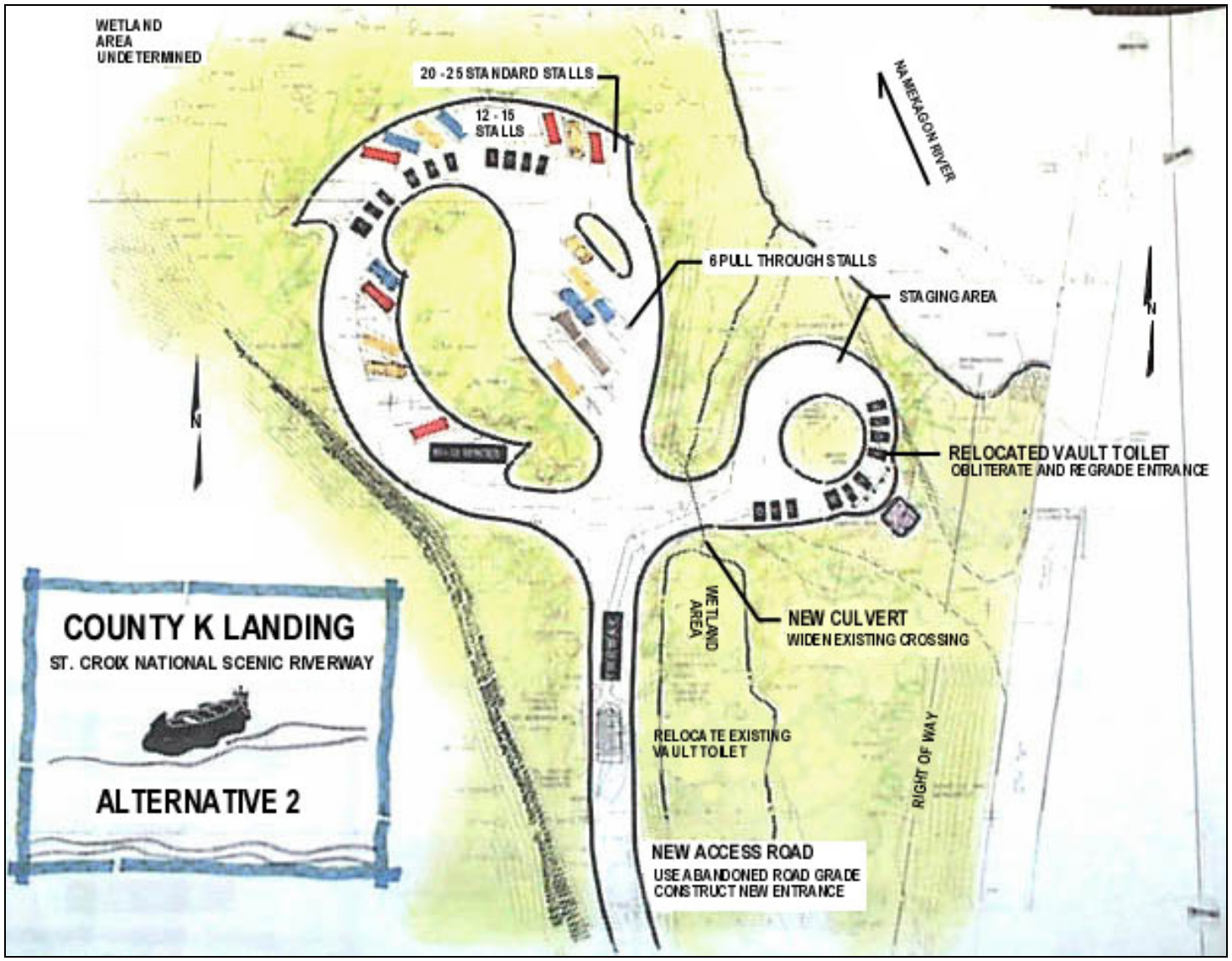

Figure 14. Preliminary drawing of the Alternative 2. This conceptual drawing was slightly refined for inclusion with trees and contour lines as seen in Figure 13.

A new parking area would be constructed west and northwest of the current parking area. This would incorporate a turn-around loop and approximately 22 spaces in three locations for diagonal parking along the loop. Part of the loop would also contain approximately 6 pull-through spaces for oversized vehicles and/or vehicles with trailers. Native seeds and plants would be used to rehabilitate disturbed areas in the island within the loop following construction. To the extent possible, existing trees and native vegetation within this loop would be saved.

The road connecting the staging and parking areas would cross the drainage from the wetland at the existing foot path to the vault toilets. Part of the drainage would need to be filled and a longer culvert installed. This would be installed and engineered to prevent altering the water level pattern in the wetland.

This alternative uses an existing unused road bed on the west side of the wetland for entry into the parking area. This new road would extend approximately 200 feet south where it would intersect County Highway K. The existing vault toilet is situated on this abandoned road bed and would be relocated.

All driving surfaces would be paved and sloped to channel water to existing or constructed vegetated buffers and catchments before release to the river.

2.4.3 Restroom Facilities

The existing vault toilet is located on an unused road bed that would be used as the entrance to the parking area. The toilets would be relocated to the middle of the existing entrance to the parking area and would be adjacent to the loop road that accesses the staging area. Vegetation would be planted to screen this facility from the river.

2.4.4 Day Use/Picnic Area

One picnic table is currently located between the landing and the bridge. A picnic table would be provided but its location has not been determined. It would likely remain in the existing location and would more easily access the restroom facilities.

2.5 Alternative 3

The Proposal: The existing parking would be replaced with a new parking area, a new access road off County Highway K, and conversion of the current parking area to a staging area (Figure 15). As in the Preferred Alternative, a parking area for approximately 24 vehicles would be added west and northwest of the existing parking area. Pull-through parking for approximately 5 oversized vehicles and vehicles with trailers would be located just south of the current parking area. Looped access to the pull-through spaces would require filling in part of the existing wetland. The entrance to the parking area would be constructed along an abandoned road west of County Highway K. This would require relocation of the existing vault toilets to the existing entry area. The existing parking area would be converted to a staging area to access the landing. Access to this launch area would require some fill across the existing drainage and a longer culvert to be installed. The total area of wetland to be filled in would be approximately 0.06 acres.

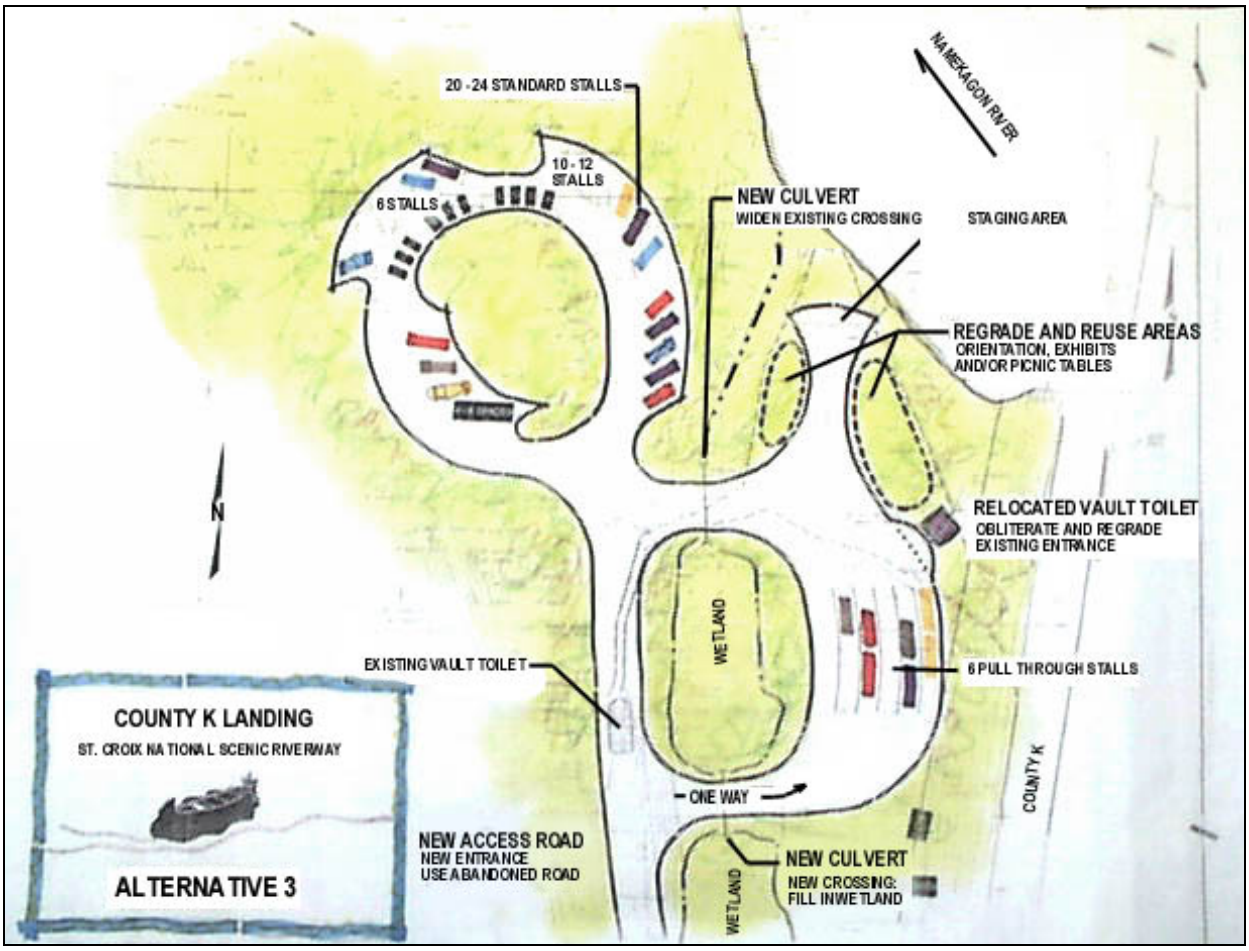

Figure 15. Preliminary drawing of Alternative 3.

2.5.1 Canoe Landing

The canoe landing is the same as that in the preferred alternative (Page 16).

2.5.2 Parking Areas and Roads

The existing parking area would be converted primarily to a staging area for loading and unloading vehicles. This would be a drive up or back in area with adjacent areas converted to native plantings. Compacted soils in these areas would be broken up covered with topsoil. This in turn would be planted with a mix of native plants containing grasses and forbs. Some shrubs or trees may be added for screening and visual enhancement.

This alternative uses an existing unused road bed on the west side of the wetland for entry into the parking area. This new road would extend approximately 200 feet south where it would intersect County Highway K. The existing vault toilet is situated on this abandoned road bed and would be relocated.

A new parking area would be constructed west and northwest of the current parking area. This would incorporate a turn-around loop and approximately 22 spaces in three locations for diagonal parking along the loop. A second parking lot with pull-through spaces for oversized

vehicles and/or vehicles with trailers would be constructed south of the existing parking area. Connecting roads would be located on the existing minor crossing over the drainage, currently the walkway to the toilets, with a new crossing over the wetland approximately 150 feet south of this. This combination will allow a loop drive for the pull through spaces. To the extent possible, existing trees and native vegetation within these loops would be saved.

2.5.3 Restroom Facilities

The existing vault toilet is located on an unused road bed that would be used as the entrance to the parking area. The toilets would be relocated adjacent to the small island in the existing entrance to the parking area. It would be adjacent to the oversize parking spaces and the staging area. This site is partially obscured from the river but more vegetation would be planted to screen this facility from the river.

2.5.4 Day Use/Picnic Area

One picnic table is currently located between the landing and the bridge. It would likely remain in the existing location and would more easily access the restroom facilities.

2.6 Alternative 4

The Proposal: The existing parking area would be paved and curbed to redirect drainage to the existing drainage west of the parking area (Figure 16). Curbs or other barriers would prevent vehicles from driving to the landing or into the river. Striping would allow more efficient parking with approximately 14 - 16 standard sized slots and three slots for oversized vehicles or vehicles with trailers.

2.5.1 Canoe Landing

The canoe landing is the same as that in the No Action Alternative (Page 15) except that vehicles will not be able to drive all the way to the water.

2.5.2 Parking Areas and Roads

The existing parking area would be paved with curbing above the landing. Water from the parking area would be redirected to the adjacent drainage. Space would be provided for approximately 14 - 16 standard stalls and three oversized vehicles. There would be insufficient room to direct traffic flow to a more efficient pattern.

2.5.3 Restroom Facilities

An accessible vault toilet is located west of the current parking area. There would be no change in the existing restroom facilities or maintenance schedule.

2.5.4 Day Use/Picnic Area

As in the No Action Alternative, the picnic table is currently located between the landing and the bridge and would remain in the existing location.

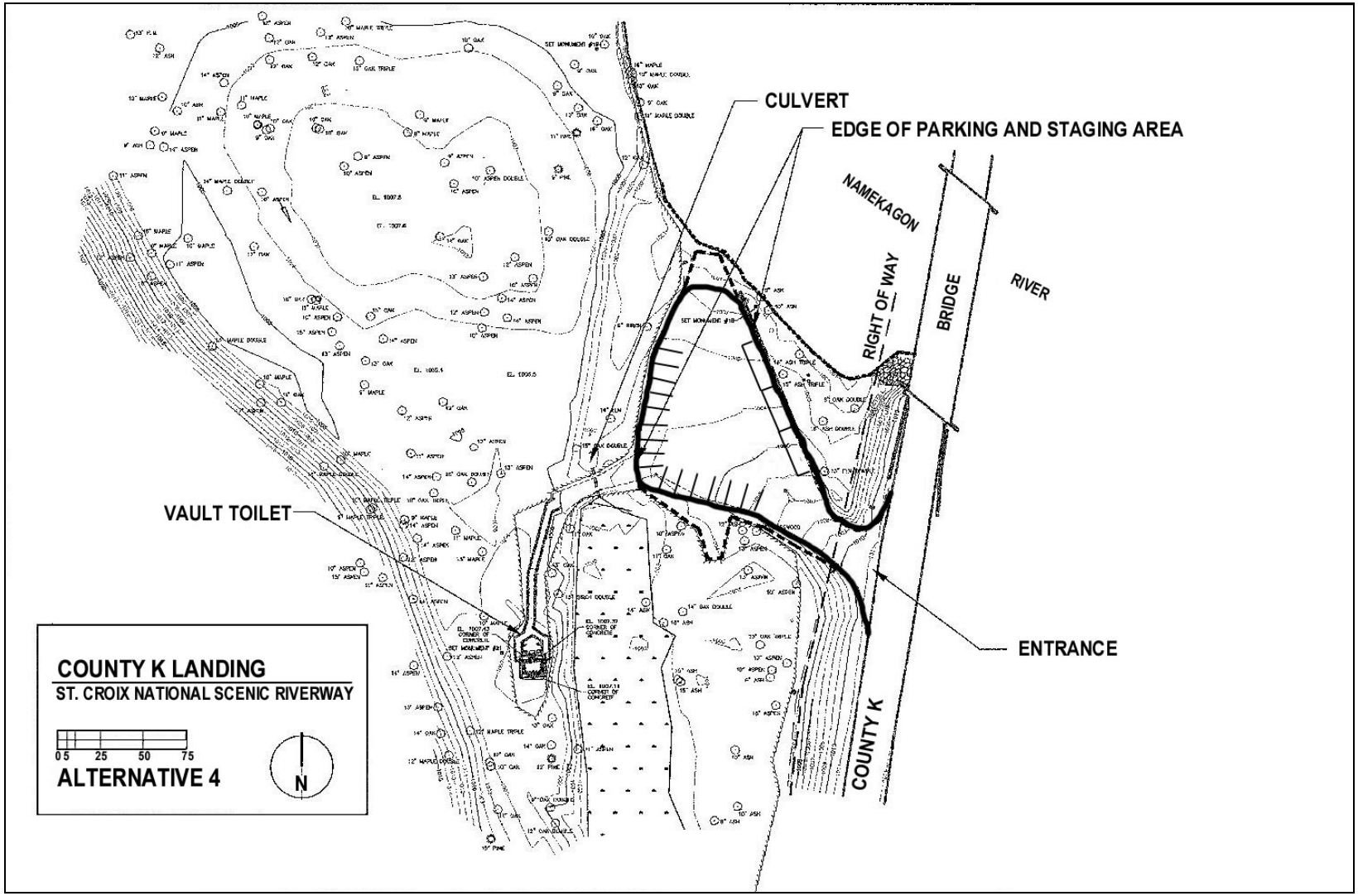

Figure 16. Alternative 4. Figure 3, page 7, (existing conditions) was modified to produce this drawing of Alternative 4.

2.7 Comparative Summaries of Alternatives

Table 3. Comparative summary of Alternatives

	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
General	No changes would occur at County K Landing.	The facilities at County K Landing would be redesigned and rebuilt.	The facilities at County K Landing would be redesigned and rebuilt.	The facilities at County K Landing would be redesigned and rebuilt.	The facilities at County K Landing would be redesigned and rebuilt.	The parking area would be paved. Other facilities would remain the same.
Parking Areas	The existing unpaved parking area would remain unchanged. Parking would be limited to 20 or fewer cars depending upon haphazard parking or parking by vehicles with trailers.	A new looped parking lot would be constructed west and northwest of the current parking area. Spaces would be available for 20 - 25 cars and 6 oversized vehicles or vehicles with trailers.	Two new parking lots would be constructed. A new lot south of the current parking area would hold 20 - 22 cars. Space for 6 oversized vehicles or vehicles with trailers would be located in a new looped parking lot west and northwest of the current parking area.	A new looped parking lot would be constructed west and northwest of the current parking area. Spaces would be available for 20 - 22 cars and 6 oversized vehicles or vehicles with trailers.	Two new parking lots would be constructed. A new lot south of the current parking area would hold 6 oversized cars. Space for 20-24 vehicles would be located in a new looped parking lot west and northwest of the current parking area.	Striping would allow space for 16 vehicles and 3 oversized vehicles. Traffic flow would remain hampered due to limited room and congested parking and staging areas.
Entrance Road	The existing entrance would remain unchanged.	A new entrance would replace the current entrance. This would be constructed approximately 130 feet south of the current entrance.	The existing entrance would remain at the same location but would probably need some reworking and grade changes to fit the new parking lot design.	A new entrance would be constructed on an existing road bed approximately 300 feet south of the current entrance. This road bed would likely need to be raised at the junction with County Highway K.	A new entrance would be constructed on an existing road bed approximately 300 feet south of the current entrance. This road bed would likely need to be raised at the junction with County Highway K.	The existing entrance would remain unchanged.

	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Staging Area and Canoe Launch	The launch remains the same. Vehicles would still be able to drive down to or into the river. Parked vehicles would continue to park in the area, crowding the landing causing congestion and may occasionally block vehicle access, especially those with trailers, to the launch area.	The current parking area would be converted to a loop drive, widened nearest the launch to allow temporary parking while loading or unloading vehicles. Vehicles would no longer be able to drive down to or into the river. The island inside the loop would be planted with native vegetation.	The current parking area would be converted to a loop drive, widened nearest the launch to allow temporary parking while loading or unloading vehicles. Vehicles would no longer be able to drive down to or into the river. The island inside the loop would be planted with native vegetation.	The current parking area would be converted to a loop drive, widened nearest the launch to allow temporary parking while loading or unloading vehicles. Vehicles would no longer be able to drive down to or into the river. The island inside the loop would be planted with native vegetation.	The current parking area would be converted to part of a loop drive. The remainder would be planted with native vegetation. A spur road at the landing will allow vehicles to drive or back near the landing. Limited room would be available for temporary parking at the staging area. Vehicles would no longer be able to drive down to or into the river.	The landing remains the same but vehicles would be prevented from driving down to or into the river. Limited room to maneuver may lead to congestion that may occasionally block vehicle access, especially those with trailers, to the launch area.
Toilets and Picnic Tables	The existing accessible vault toilet and picnic table would remain in their current locations.	The existing accessible vault toilet and picnic table would remain in their current locations.	The existing accessible vault toilet and picnic table would remain in their current locations.	The existing accessible vault toilet would be relocated to the current entrance area. The picnic table would remain in its current location.	The existing accessible vault toilet would be relocated to the current entrance area. The picnic table would remain in its current location.	The existing accessible vault toilet and picnic table would remain in their current locations.
Impacts to Wetlands	There would be no additional impacts to wetlands.	There would be a minor impact to wetlands. Access to the parking area would require filling in approximately 20 feet of a small drainage. The culvert draining the wetland into this drainage would be	There would be a minor impact to wetlands. Access to a parking area would require filling in approximately 20 feet of a small drainage. The culvert draining the wetland into this drainage would be	There would be a minor impact to wetlands. Access to a parking area would require filling in approximately 20 feet of a small drainage. The culvert draining the wetland into this drainage would be	There would be a larger impact to wetlands. Access to a parking area would require filling in approximately 20 feet of a small drainage. A small boardwalk from a parking area to the launch would cross the	There would be no additional impacts to wetlands.

	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		replaced with a longer culvert. A small boardwalk from the parking area to the launch would cross the drainage with a small foot bridge.	replaced with a longer culvert. A small boardwalk from a parking area to the launch would cross the drainage with a small foot bridge.	replaced with a longer culvert. A small boardwalk from a parking area to the launch would cross the drainage with a small foot bridge.	drainage with a small foot bridge. A drive across the wetland would require 0.04 acres or 1800 square feet of wetland to be filled.	
Impervious Surfaces and Drainage	Water would continue to flow over the compacted soils of the parking area, carrying sediments from the parking lot into the river.	All drivable surfaces would be sloped and curbed where necessary to direct drainage to existing or constructed vegetated buffers.	All drivable surfaces would be sloped and curbed where necessary to direct drainage to existing or constructed vegetated buffers.	All drivable surfaces would be sloped and curbed where necessary to direct drainage to existing or constructed vegetated buffers.	All drivable surfaces would be sloped and curbed where necessary to direct drainage to existing or constructed vegetated buffers.	All drivable surfaces would be sloped and curbed where necessary to direct drainage to existing or constructed vegetated buffers and drainages.
Traffic Flow and Visitor Safety	No change occurs in current safety hazards. Overflow parking would still occur on County Highway K resulting in pedestrian traffic on a moderately busy highway. Congested traffic flow in the entrance may temporarily block traffic on the highway. Congested parking in combination with the launch would put pedestrians and vehicles	Improved traffic flow, reduced congestion, an increase in parking spaces, and a path to the launch area would increase visitor safety. A no parking zone on County Highway K would be considered if deemed necessary.	Improved traffic flow, reduced congestion, an increase in parking spaces, and a path to the launch area from the trailer parking area would increase visitor safety. Visitors would still have to cross the main entry road close to the entrance to access the launch from the main parking area. A no parking zone on County Highway K would be considered if deemed	Improved traffic flow, reduced congestion, an increase in parking spaces, and a path to the launch area would increase visitor safety. A no parking zone on County Highway K would be considered if deemed necessary.	Improved traffic flow, reduced congestion, an increase in parking spaces, and a path to the launch area would increase visitor safety. Some congestion would remain in the staging area due to limited temporary parking space. A no parking zone on County Highway K would be considered if deemed necessary.	No change occurs in current safety hazards. Overflow parking would still occur on County Highway K resulting in pedestrian traffic on a moderately busy highway. Congested traffic flow in the entrance may temporarily block traffic on the highway. Congested traffic in combination with the launch would put pedestrians and vehicles

	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	traveling in the same space.		necessary.			traveling in the same space.

2.8 Environmentally Preferable Alternative

The Environmental Protection Agency defines the environmentally preferable alternative as the alternative that will promote the national environmental policy expressed in NEPA (Sec. 101 (b)). This includes alternatives that:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
2. ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.
3. attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
5. achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

This section will determine the Environmentally Preferable Alternative by examining each alternative, the Preferred Alternative, Alternative 1, Alternative 2 and the No Action Alternative against the above six criteria. A summary table is provided on page 37.

2.8.1 The Alternative That Best Fulfills The Responsibilities Of Each Generation As Trustee Of The Environment For Succeeding Generations.

The **No Action Alternative** has no additional impacts to the biological and physical environment due to new construction. However, it has continuing impacts to water quality due to parking lot runoff and continuing impacts to scenic resources due to a lack of screening the parking facilities from the river.

The **Preferred Alternative** improves the environment by reducing parking lot runoff. It further improves the scenic resources of the river by moving the parking out of view of the river and better screening the remaining facilities at this site. These improvements would benefit present and future generations. A moderate amount of the biological and physical environment would be adversely impacted but will be partly offset through rehabilitation of parts of the current parking area and entrance road.

Alternative 1 has similar improvements and impacts as the Preferred Alternative. There may be a slightly larger amount of impact to the biological and physical environment due to two separate parking areas being constructed.

Alternative 2 has similar improvements and impacts as the Preferred Alternative. There may be a slightly larger amount of impact to the biological and physical environment due to the much longer entrance road.

Alternative 3 has similar improvements and impacts as the Alternative 2. There is a larger amount of impact to the biological and physical environment due extra road crossing over the wetland.

Alternative 4 is similar to the No Action Alternative but has improvements by diverting runoff from the parking lot.

The Preferred Alternative best meets this criterion because overall, it creates a better facility for present and future generations, reduces impacts to water quality, and has a smaller adverse impact to the biological and physical environment. Although the Alternative 4 has the smallest impact to the biological and physical environment, it is felt that the overall improvement outweighs the negative.

2.8.2 The Alternative That Best Ensures For All American Safe, Healthful, Productive, And Esthetically And Culturally Pleasing Surroundings.

The **No Action Alternative** and **Alternative 4** continue the safety concerns of visitors parking and walking on and across County K and pedestrians on driving surfaces. These alternatives also continue the negative impacts to aesthetics by having a parking facility in full view of the river and a lack of screening of the other facilities.

The **Preferred Alternative** would create a parking area that is aesthetically pleasing while ensuring visitor safety to the extent possible.

Alternative 1 has similar improvements in aesthetics when compared to the Preferred Alternative. Visitor safety would be improved but still leaves the parking entrance near the bridge and will require visitors to cross the entry road to reach the launch area.

Alternative 2 and **Alternative 3** have similar improvements in aesthetics and visitor safety when compared to the Preferred Alternative.

The Preferred Alternative, Alternative 2 and Alternative 3 best fit this criterion.

2.8.3 The Alternative That Best Attains The Widest Range Of Beneficial Uses Of The Environment Without Degradation, Risk Of Health Or Safety, Or Other Undesirable And Unintended Consequences.

The **No Action Alternative** provides limited facilities in a manner that result in unsafe conditions. There remains a small impact to the environment due to a continuation of runoff into the river.

The **Preferred Alternative** would provide all the same facilities but with expanded parking capabilities, better traffic flow and increased visitor safety. There would be a small impact to the environment due to new construction in undisturbed land.

Alternative 1 has similar facilities to the Preferred Alternative but does not improve visitor safety to the extent that the Preferred Alternative does.

Alternative 2 has similar facilities and benefits as the Preferred Alternative.

Alternative 3 has similar facilities and benefits as the Preferred Alternative but with more degradation of the environment due to the larger amount wetland filled.

Alternative 4 has similar facilities as the No Action Alternative.

The Preferred Alternative and Alternative 2 best fit this criterion.

2.8.4 The Alternative That Best Preserves Important Historic, Cultural, And Natural Aspects Of Our National Heritage And Maintains, Wherever Possible, An Environment That Supports Diversity And Variety Of Individual Choice.

The **No Action Alternative** has a congested parking lot with no designated handicap parking spaces. This can lead to limited choices of parking and access to the launch area.

The **Preferred Alternative, Alternative 1, Alternative 2** and **Alternative 3** will preserve the natural aspect as viewed from the river. They would maintain a variety of choices by providing

more spaces for parking different types of vehicles. Facilities would remain accessible and will increase accessibility by providing handicap parking spaces.

Alternative 4 is similar to the No Action Alternative but would have marked spaces and designated handicap parking spaces.

The Preferred Alternative, Alternative 1, 2 and 3 best fit this criterion.

2.8.5 The Alternative That Best Achieves A Balance Between Population And Resource Use That Will Permit High Standards Of Living And A Wide Sharing Of Life's Amenities.

The **No Action Alternative** has a congested parking lot that can lead to limited choices for parking and access to the river. Unlimited parking on the highway shoulder could lead to overuse of the river. A gravel and dirt parking area may not be conducive to a high standard of living.

The **Preferred Alternative, Alternative 1, Alternative 2** and **Alternative 3** would provide parking facilities at a level that does not damage the resources through overuse, maintains a high standard living through improved facilities, and allows the sharing of the river with the public.

Alternative 4 is similar to the No Action Alternative in this criterion but is slightly better due to the improved surface of the parking lot.

The Preferred Alternative, Alternative 1, Alternative 2 and Alternative 3 best fit this criterion.

2.8.6 The Alternative That Best Enhances The Quality Of Renewable Resources And Approach The Maximum Attainable Recycling Of Depletable Resources.

The **No Action Alternative** would continue to send sediment and pollutants into the Namekagon River by way of runoff from the parking lot. This alternative does not remove any mature trees or natural habitat.

The **Preferred Alternative** would improve the water quality by diverting parking lot runoff to vegetated buffers. Some loss of habitat and a small number of mature trees would be removed by this alternative. Recycled materials would be used to the extent possible.

Alternative 1 and **Alternative 3** is similar to the Preferred Alternative in this criterion but would remove slightly fewer mature trees. This difference may be negligible.

Alternative 2 is similar to the Preferred Alternative in this criterion.

Alternative 4 is similar to the No Action Alternative in this criterion but diverts runoff from the parking lot to a buffer area.

Alternative 4 has the least impact upon existing vegetation and reduces runoff from the parking lot. Alternative 4 best fits this criterion.

2.8.7 Designation Of The Environmentally Preferable Alternative

The **No Action Alternative** could arguably be the best fit for criterion numbers 1 and 6. The **Preferred Alternative** can be described as the best fit for all the criteria except criterion 6 where it is still a good fit. **Alternative 1** can be described as the best fit for criterion numbers 4 and 5. **Alternative 2** can be described as the best fit for criterion numbers 2, 3, 4 and 5. **Alternatives 3** and **4** can be described as the best fit for criterion numbers 2, 4 and 5.

Based upon these descriptions, the **Preferred Alternative is the Environmentally Preferable Alternative**.

Table 4. Summary table used to summarize which alternative best fits the description of the Environmentally Preferable Alternative. A description of the criteria can be found on page 34. More than one alternative may fit the description for environmentally preferable for a given criteria. See sections 2.8.1 to 2.8.7 for full descriptions under each criteria.

	No Action Alternative	**Preferred Alternative**	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Alternative 4**
Criterion 1	Good Fit	Best Fit	Good Fit	Good Fit	Good Fit	Arguably The Best Fit
Criterion 2	Poor Fit	Best Fit	Good Fit	Best Fit	Best Fit	Poor Fit
Criterion 3	Poor Fit	Best Fit	Fair Fit	Best Fit	Good Fit	Poor Fit
Criterion 4	Fair Fit	Best Fit	Best Fit	Best Fit	Best Fit	Fair Fit
Criterion 5	Poor Fit	Best Fit	Best Fit	Best Fit	Best Fit	Fair Fit
Criterion 6	Good Fit	Good Fit	Good Fit	Good Fit	Good Fit	Best Fit

3.0 AFFECTED ENVIRONMENT

St. Croix National Scenic Riverway is located on the Minnesota-Wisconsin border and in northwestern Wisconsin. The proposed project is on the south side of the Namekagon River adjacent to and west of Washburn County Highway K in west central Washburn County in Trego Township, Township 40 North - Range 12 West in the NE 1/4 of Section 18. Areas directly affected by the proposed development include the current landing, adjacent lands to be used for new parking and road surfaces, and adjacent lands. River use at this landing by visitors would be temporarily impacted. It is not expected that visitation will be affected by the finished project.

Potential impacts are expected to soils, air quality, traffic and noise, water quality, wetlands, wildlife, plants, recreation and visitor use, and scenic resources. The affected area for each is discussed below.

The St. Croix National Scenic Riverway is one of the most biologically diverse units of the National Park Service in the Midwest. The linear extent of the Riverway across varied terrestrial and aquatic habitats results in a variety of invertebrates, amphibians, reptiles, birds, and mammals that inhabit and use the Riverway. Moreover, the park is an important location for rare species of plants and animals.

The National Park Service strives to maintain those values for which the Riverway was established. To aid in reaching this goal, the General Management Plan (NPS 1998) divides the Riverway into management zones that describe the experience visitors should encounter within those zones. Most of the Namekagon River in the affected area is designated as 'near-primitive northwoods' as described below:

> "An area managed as near-primitive northwoods will provide a natural landscape that is typified by or reflects the northwoods ecosystem. There may be signs of people, but generally it will look like a natural, remote, primitive area. Visitors will likely encounter wildlife, and there will be many opportunities for high-quality fishing. Most visitors will be on foot, paddling, or engaged in other human powered outdoor recreational activities, although some low-speed motorboat travel will also be permitted.
>
> Because access will be limited in this area there will be fewer visitors and many opportunities to find solitude and quiet. Encounters with National Park Service staff will also be infrequent. These areas will offer opportunities for challenge and adventure. Development, including NPS facilities, will be rare - one could go for long stretches and see no development. Small, primitive campsites (i.e., cleared areas with fire rings and pit toilets, which are not accessible by road), designated trails, and access points may be present. Onsite controls and restrictions may be used for resource protection and visitor safety, including some resource modifications that blend in with the natural environment."

The 'near-primitive northwoods' zone is the least developed, most natural zone within the Riverway. The extent and magnitude of development proposed within the range of alternatives fits

within those guidelines described above. National Park Service staff and park neighbors anecdotally report as many as 40 vehicles using the parking lot and roadside at one time though generally use is considerably less. Traffic counters are not used so actual use is unknown.

The proposed development site lies both within the existing developed area and adjacent forest. Presettlement vegetation at this location probably consisted of jack pine (*Pinus banksiana*), scrub (Hill's) oak (*Quercus ellipsoidalis*) forests and barrens or savannahs (Finley 1976, Curtis 1959). The current forest here is a mixture of hardwoods and pines and would be characterized as Northern Hardwood or Mixed Hardwood Forest. Some of the tree and herbaceous species found here are suggestive of an oak savannah that has changed to a closed forest canopy through succession. The overstory consists of sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), quaking aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), white oak (*Quercus* alba), bur oak (*Quercus macrocarpa*), red oak (*Quercus borealis*), American basswood (*Tilia americana*), green ash (*Fraxinus pennsylvanica*), red pine (*Pinus resinosa*), white pine (*Pinus strobus*) and jack pine. Most of these trees fall within 6-16 inches in diameter at breast height. Understory shrubs consist of juneberry (*Amelanchier laevis*), ironwood (*Carpinus caroliniana*), American hornbeam (*Ostrya virginiana*), and prickly-ash (*Xanthoxylum americanum*). Herbaceous plants found here include Pennsylvania sedge, (*Carex pensylvanica*), bracken fern (*Pteridium aquilinum*), grape fern (*Botrychium* sp.), blue flag (*Iris discolor*), harebell (*Campanula rotundifolia*), wild bergamot (*Monarda fistulosa*), northern bedstraw (*Galium boreale*), spreading dogbane (*Apocynum androsaemifolium*), large-leaved aster (*Aster macrophyllus*), hog-peanut (*Amphicarpaea bracteata*), wild sarsaparilla (*Aralia nudicaulis*), wild geranium (*Geranium maculatum*), sweet cicely (*Osmorhiza claytonii*), nodding trillium (*Trillium*), poison ivy (*Toxicodendron radicans*) and jack-in-a-pulpit (*Arisaema triphyllum*). No rare or listed plant species have been located at this site.

A small narrow wetland, approximately 350 feet long by 50 feet across extends south from the southwest corner of the existing parking area approximately 350 feet to County K (see Figure 3, page 4). This wetland drains north to the river through an intermittent stream which is crossed by the walking trail from the parking area to the vault toilets. A culvert allows water to pass under this walkway. An abandoned road bed forms the west side of the wetland. Given the history of construction and development at this site, it appears that the wetland, though well established, is artificial owing its origin to the placement of the now abandoned road bed whose terminus crosses and blocks the outflow of the wetland. Adjacent to the wetland are typical wetland tree and shrub species such as American elm (*Ulmus americana*), black ash (*Fraxinus nigra*), paper birch (*Betula papyrifera*), pussy willow (*Salix discolor*), and speckled alder (*Alnus rugosa*).

Glaciers deposited the parent materials of the soils presently within the St. Croix watershed. These include calcareous material from southern Canada, and bedrock materials from the Laurentian shield area of Minnesota and Ontario. Unconsolidated glacial sands, clays, silt loams, sedimentary rocks and gravel are typical. Locally, the soils would be considered to be entisols - little or no development of horizons. It would be further subdivided into psamments - formed from well sorted sands; usually not wet except where the water table is high (WDNR 2000).

Warm summers and cold winters characterize the climate in the St. Croix River basin. Major recreational use of the rivers is primarily confined to spring, summer, and fall. From freeze-up in

November to the April ice breakup, use along the river diminishes although cross-country skiing is a favorite activity. Snowmobile use on the river is prohibited on the Namekagon River. Annual precipitation averages from 29 inches (74 cm) to 30 inches (76 cm) per year.

Water quality of the Namekagon River is considered outstanding. Ground water in Washburn County is generally good.

4.0 IMPACTS

4.1 Impacts to Geological Resources - Soils

4.1.1 Impact definition for Geological Resources - Soils

Impacts are expected to be minor or negligible for all alternatives. Negligible impacts are those that are so minute that they have no easily observable effects. Minor impacts include soil compaction, loss due to erosion, and burial or covering with fill and or pavement. Impacts can be adverse or beneficial.

4.1.2 No Action Alternative Impacts To Soils

Soils are expected to be impacted through continued erosion from the parking lot and deposition of sediments at the water's edge and into the river. These adverse impacts to soils are considered to be long term minor impacts.

4.1.3 Preferred Alternative Impacts To Soils

Most of the development occurs in nearly level topography and generally slopes towards the river. In the main site for the parking area, the slopes radiate out in all directions as it is 1-2 feet higher than the surrounding area. The steepest slopes occur where the entrance off County K will be constructed. Here County K is elevated to an artificial height and will require up to four feet of fill to ease the grade into the parking and staging area. Topsoil removed for paved areas will be stockpiled and reused on site for rehabilitation of impacted areas. This stockpile will be covered to limit erosion and loss of materials. Long-term beneficial impacts are expected to occur as erosion potential will be reduced through diverting water from the parking area and revegetation of small portions of the existing landing. Impacts due to erosion and/or siltation are expected to be negligible or minor and short or moderate-term, lasting mainly during the construction period but up to a year or two for seeded vegetation to cover exposed soils.

Compaction of soils is expected where parking and driving surfaces occur. Some compacted soils within the loop drive/staging area will be broken up, covered with topsoil and planted with native vegetation. Soils adjacent to the staging area would be rehabilitated, and in time, loosened through invasion by roots and burrowing animals. Some of these soils would be broken up to aid in restoration to native vegetation. Compaction impacts are minor and long-term but both beneficial and adverse, with adverse impacts covering a larger area than the beneficial impacts.

4.1.4 Alternative 1 Impacts To Soils

Impacts to soils are expected to be similar to those in the Preferred Alternative.

4.1.5 Alternative 2 and Alternative 3 Impacts To Soils

Compared to the Preferred Alternative, a slightly larger area of impervious surfaces will be added in this alternative due to the long entrance road (see Figure 13, page 24). More soils will be compacted and/or covered overall, but the increase is due largely to the entrance road where fill has been previously deposited. A slightly smaller amount of native soils will be removed as the area south of the existing parking area will not be disturbed. This would be offset partly by the additional fill required at the edges of the abandoned road bed to accommodate a road slightly wider than the existing bed. At the existing entrance a slightly larger area of the existing compacted soils would be broken up and covered with topsoil. Impacts to soils due to compaction are expected to be permanent adverse but minor. Impacts due to sedimentation would be the same as in the Preferred Alternative.

4.1.6 Alternative 4 Impacts To Soils

Impacts to soils are expected to be similar to those in the No Action Alternative with the additional burying or covering with asphalt of previously compacted soil. Curbs will redirect runoff to an adjacent drainage, reducing erosion at the landing. Impacts to soils are expected to be beneficial but minor.

4.2 Impacts to Air Quality

4.2.1 Impact Definition for Air Quality

Impacts are expected to be minor or negligible for all alternatives. Negligible impacts are those that are so minute that they have no easily observable effects. Minor impacts are those that are noticeable, but are not expected to cause health concerns. All impacts are expected to be short term, lasting only during construction.

4.2.2 No Action Alternative Impacts To Air Quality

There would be no impacts to air quality due to the No Action Alternative.

4.2.3 All Action Alternatives Impacts To Air Quality

Short-term negligible to minor impacts are expected to air quality during construction. These will be local in nature, impacting the site and adjacent down-wind locations.

4.3 Impacts Due To Noise

4.3.1 Impact Definition For Noise

Impacts are expected to be minor or moderate for all alternatives. Minor impacts from noise are those that come from normal traffic at short distances and are unscreened. Moderate impacts from noise are those that are above normal traffic volumes such as from construction equipment at short distances. Impacts are expected to be short term, lasting only during construction, or permanent. Impacts can be adverse or beneficial.

4.3.2 No Action Alternative Impacts Due To Noise

Highway noise from County K would remain unscreened from the landing and parking areas. This alternative is expected to have a long term minor adverse impact due to noise.

4.3.3 Preferred Alternative Impacts Due To Noise

Noise and traffic will be temporarily increased during this project but will take place in the off season. These impacts are expected to be minor to moderate adverse impacts as perceived by users. A beneficial, long-term, minor impact will occur due to screening the parking, staging and landing areas from the noise of traffic on County K.

4.3.4 Alternative 1 Impacts Due To Noise

Noise and traffic will be temporarily increased during this project but will take place in the off season. These impacts are expected to be minor to moderate adverse impacts as perceived by users. A beneficial, long-term, minor impact will occur due to screening the oversized vehicle parking area, staging and landing areas from the noise of traffic on County K. The main parking area will remain in close proximity to County K and will continue to have minor adverse impacts due to noise until screening planted between the highway and the parking area matures.

4.3.5 Alternative 2 Impacts Due To Noise

Impacts due to noise are expected to be the same as the Preferred Alternative.

4.3.6 Alternative 3 Impacts Due To Noise

Impacts due to noise are expected to be the same as in Alternative 1 due to the oversized vehicle parking area located adjacent to County K.

4.3.7 Alternative 4 Impacts Due To Noise

Impacts due to noise are expected to be the similar to those in the No Action Alternative. Noise from construction is expected to be similar to those in the Preferred Alternative except of shorter duration.

4.4 Impacts Due To Traffic

4.4.1 Impact Definition For Traffic

Impacts are expected to be moderate, minor or negligible for all alternatives. Minor impacts from traffic are those that come from congestion within the parking lot. Moderate impacts are those that cause traffic on County K to slow down due to overflow parking on the shoulders. Additional moderate impacts would be longer interruptions to normal traffic flow due to vehicles entering the parking area blocking the highway resulting from congestion in the parking lot. Negligible impacts are those that can be expected from normal traffic patterns on County K and vehicles entering or exiting the highway at the entrance to the parking area. Impacts are expected to be short term, lasting only during construction, or long term, lasting beyond the construction phase. Impacts can be adverse or beneficial.

4.4.2 No Action Alternative Impacts To Traffic

Adverse impacts due to congestion and poor traffic flow would continue under the No Action

Alternative. A long term moderate adverse impact is expected due to traffic congestion within the parking and landing areas. Vehicles entering this congested area would continue to temporarily block traffic on County K and overflow parking on County K would continue to impact normal traffic patterns on the highway.

4.4.3 Preferred Alternative Impacts To Traffic

Traffic will be temporarily increased during this project but will take place in the off season. These impacts are expected to be short term minor to moderate adverse impacts as perceived by users. Reduced overflow parking on the highway and improved traffic flow within the lot will result in will beneficial, long-term, minor and moderate impacts.

4.4.4 Alternatives 1, 2 and 3 Impacts To Traffic

Impacts due to these alternatives are expected to be similar to those from the Preferred Alternative.

4.4.5 Alternative 4 Impacts To Traffic

Impacts due to these alternatives are expected to be similar to those from the No Action Alternative with the additional short term minor to moderate adverse impacts resulting from construction vehicles and activities.

4.5 Impacts To Water Quality

4.5.1 Impact Definition For Water Quality

Water quality is impacted by sediments and pollutants carried by runoff from the site, or by stirring up the sediments by driving into the water. Negligible impacts are those that are not easily detectable. Minor impacts are those that are visible during minor rain events and water can be easily seen running from the site into the river. Moderate impacts are defined by water visibly carrying sediments into the river, and a plume of sediment is easily discernable in the river. Short term events are those lasting during a rain event. Moderate term events are those lasting throughout construction and up to one year or until ground cover vegetation becomes established. Long term events are the continued repeating events beyond the construction phase.

4.5.1 Best Management Practices Common To All Action Alternatives

In accordance with the Clean Water Act, appropriate project design using best management practices will be employed to reduce erosion and sedimentation. Erosion control blankets and seeding of exposed soils will be used to control erosion where appropriate. Use of silt barriers during construction will limit or eliminate siltation into the river unless an extreme storm event occurs. Control of soil erosion during and after construction is expected to protect water quality in the river.

4.5.2 No Action Alternative Impacts To Water Quality

Runoff from the parking area would continue to flow directly into the river carrying sediments and pollutants. Vehicles would continue to be able to drive into the river. These are expected to be long term adverse negligible to minor impacts to water quality. Major storm events may result in short term moderate adverse impacts. All of these impacts may be of greater concern when looked at as a cumulative impact due to other natural and human caused sediment and pollutant inputs to the river.

4.5.3 Preferred Alternative Impacts To Water Quality

There is a potential for short-term minor to moderate impact to water quality due to sedimentation and runoff during construction activities. In the event a major storm event does occur during the most vulnerable point in construction (maximum exposed disturbed soils), short to moderate-term, minor impacts may occur. Sediment deposition would be expected to be minor and transitory, dispersing at latest with the next high water, the following spring being the longest term. Long-term impacts are expected to be beneficial but moderate or minor through elimination of sedimentation off the existing parking lot.

4.5.4 Alternatives 1, 2 and 3 Impacts To Water Quality

Impacts due to these alternatives are expected to be similar to those from the Preferred Alternative.

4.5.5 Alternative 4 Impacts To Water Quality

Impacts due to these alternatives are expected to be similar to those from the No Action Alternative with the additional potential for short term minor to moderate adverse impacts resulting from storm events during construction activities. Long-term impacts are expected to be beneficial but minor through diversion of sedimentation off the existing parking lot.

4.6 Impacts To Wetlands

4.6.1 Impact Definition For Wetlands

Wetlands are impacted by altering the water level, deposition of sediments from erosion, changes in the biotic or hydrological function, changes in the biotic community, or filling in through deposition of erosional sediments or intentional fill for use as road beds. Impacts are negligible if they are not easily detectable. Impacts are minor if hydrological or biological function is detectably altered, if changes in water level are beyond pre-existing normal variation, or if more than 0.05 acres are filled in. Short term impacts are those lasting no more than during construction. Moderate term impacts are those lasting 1-2 years beyond construction, or until wetland plants become reestablished. Long term impacts are those lasting more than two years.

4.6.2 Best Management Practices Common To All Alternatives Except The No Action Alternative And Alternative 4

Silt fencing will be used to limit or eliminate sediments from reaching wetlands adjacent to construction activities. If wetlands are filled, use of erosion blankets and/or annual cover crops and native vegetation will be planted on slopes to anchor soils as soon as possible. Wetland species will be planted at wetland edges. In addition, the smallest footprint possible of fill will be used. The water level will be monitored to ascertain normal water levels prior to construction and following construction. Outflow from the wetland, if altered, will be adjusted to bring it back within normal range.

4.6.3 No Action Alternative Impacts To Wetlands

There would be no impact to wetlands due to the No Action Alternative.

4.6.4 Preferred Alternative Impacts To Wetlands

As in all the action alternatives except Alternative 3, the project would not place any fill in the wetland south of the current parking area. As in all the action alternatives, a minor stream crossing with a longer culvert would replace the existing culvert and stream crossing (current access to the toilets). Approximately 20 additional feet of the stream draining the larger wetland would be filled for the road leading to the parking area.

Impacts to biotic functions of this stream/wetland would be adverse but negligible. A very small amount of native floral and faunal species will be removed but it would not impact any of their populations. There would be no impacts to hydrologic functions, the cultural value, the research or scientific values, or the economic value of this wetland/stream. Therefore, impacts to wetlands are considered to be adverse but negligible.

As in all the action alternatives except Alternative 3, less than 0.005 acre of wetland will be adversely impacted by the stream crossing. NPS Policies requires NPS actions to avoid, minimize or compensate for impacts to wetlands, in that order. There are no other practicable alternatives that address the purpose and need for this project without being unduly expensive. There are no other areas available that could replace the landing at this site.

This project is an "excepted action" as defined by NPS Procedural Manual #77-1: Wetland Protection, Section 4.2.A.1(d): "**Minor** stream crossings using culverts…" This alternative would also meet all the required best management procedures as defined in Appendix 2 of that manual. "Excepted actions" described in that manual are those actions that may be excepted from the Statement of Findings requirements described in Sections 5.3.D and 5.3.E and the compensation requirements discussed in Section 5.2.C of these procedures.

4.6.5 Alternative 1 Impacts To Wetlands

Impacts due to Alternative 1 are expected to be similar to those from the Preferred Alternative.

4.6.6 Alternative 2 Impacts To Wetlands

The preliminary drawing for Alternative 2 shows the (see Figure 13, page 24) southwest edge of the parking area very close to the base of the bluff. Seeps and wetland are present at this location. If this alternative was selected it would be redesigned to avoid encroachment into this area. Therefore, impacts upon wetlands would be the same as those in the Preferred Alternative.

4.6.7 Alternative 3 Impacts To Wetlands

This alternative has additional impacts upon wetlands to those described the Preferred Alternative. The loop road would require an additional 0.04 acres of wetland to be filled in for a total of 0.06 acres. This is considered to be an adverse minor permanent impact.

4.6.8 Alternative 4 Impacts To Wetlands

There would be no impact to wetlands due to the Alternative 4.

4.7 Impacts To Vegetation

4.7.1 Impact Definition For Vegetation

Vegetation is impacted by trampling, removal, or stress due to root loss, compaction or competition due to the presence of invasive exotic plants. Negligible impacts are those that are not easily detectable such as occasional trampling of ground cover on an occasional basis, or the trimming of branches on trees. Minor impacts are loss or removal of vegetation due to stress. Moderate impacts are loss or clearing of all vegetation in a relatively small area for the installation of parking lots, roads or other park facilities. Short term events are those lasting during construction and up to two years or until ground cover vegetation becomes established upon disturbed soils. Moderate term events are those lasting throughout construction and up to 10 years or until shrubs become established or reach maturity. Long term events are those that take greater than 10 years to recover such as the time required for trees to become established and reach maturity.

4.7.2 Best Management Practices Common To All Action Alternatives

Native vegetation adjacent to construction areas and within loops or parking area islands would be protected to the extent possible. Disturbed soils would be planted with a combination of an annual cover crop and native grasses and forbs. Shrubs and trees will be planted in these areas if large enough to sustain them. Stockpiled soils and their seed bank of native species will be reused in disturbed areas to promote native vegetation recovery.

No problematic invasive exotic species are known to exist at this site. However, disturbance and exposure of soils encourages the introduction of many exotic plants. Care would be taken to prevent introducing exotic plants to the extent practical and seeds of native plants would be planted to cover bare ground as quickly as possible. The site would be regularly monitored following construction and any exotic species will be controlled before they become established.

4.7.3 No Action Alternative Impacts To Vegetation

No trees will be removed under the No Action Alternative. Mowing would continue in the picnic area and no vegetative screen would be allowed to grow here beyond the existing trees.

4.7.4 Preferred Alternative Impacts To Vegetation

Large trees at County K Landing were surveyed resulting in a map of the area showing the distribution of all trees larger than 9 inches in diameter. Based upon the drawing of the Preferred Alternative (see Figure 9, page 18), approximately 43 trees in this category will be cut and removed (Table 5). The exact number and species of impacted trees would vary depending upon final architectural drawings and implementation of construction. This is considered to be a moderate adverse permanent impact. Planted trees would mature in 10 - 20 years, eventually replacing a few of these in the staging area loop and adjacent to the landing.

Native vegetation would be replaced by drivable surfaces and the walkway from the parking area to the landing. Native vegetation will be protected within the loop of the parking area to the extent possible. Native vegetation will be planted within the loop of the staging area and in portions of the area between the landing and the staging area loop. The result is a minor

permanent adverse impact to vegetation, partly offset by replanted vegetation within 5 - 10 years.

Table 5. Estimate of trees to be removed by the Preferred Alternative.

Preferred Alternative - tree diameters are measured at breast height									
Species	**9"**	**10"**	**11"**	**12"**	**13"**	**14"**	**15"**	**16"**	**Totals**
Ash		1							1
Aspen	1	7	1	5	5	4	1		24
Basswood	1								1
Elm					1				1
Oak	1	2		3	2	1	3	1	13
Maple	1	1	1						3
Totals	4	11	2	8	8	5	4	1	43

Table 6. Estimate of trees to be removed by Alternative 1.

Alternative 1 - tree diameters are measured at breast height									
Species	**9"**	**10"**	**11"**	**12"**	**13"**	**14"**	**15"**	**16"**	**Totals**
Ash	1	1		1			2		5
Aspen		6		2	4	2	2		16
Basswood	1								1
Elm					1				1
Oak				1	2	1	1	1	6
Maple	1		1						2
Totals	3	7	1	4	7	3	5	1	31

Table 7. Estimate of trees to be removed by Alternative 2.

Alternative 2 - tree diameters are measured at breast height									
Species	**9"**	**10"**	**11"**	**12"**	**13"**	**14"**	**15"**	**16"**	**Totals**
Ash									0
Aspen	2	5	1	3	3	3	1		18
Basswood									0
Elm					1				1
Oak	1	2		1	2	2	1	1	10
Maple	2		1						3
Pine				1					1
Totals	5	7	2	5	6	5	2	1	33

Table 8. Estimate of trees to be removed by Alternative 3.

Alternative 3 - tree diameters are measured at breast height									
Species	**9"**	**10"**	**11"**	**12"**	**13"**	**14"**	**15"**	**16"**	**Totals**
Ash	1								1
Aspen		8		4	4	1	1		18
Basswood	1								1
Elm									0
Oak	1	1	1	2	4		1	1	11
Maple	1		1						2
Pine				1					1
Totals	4	9	2	7	8	1	2	1	34

4.7.5 Alternatives 1, 2 and 3 Impacts To Vegetation

Impacts to vegetation are expected to be similar to those in the Preferred Alternative. Based upon the drawing of Alternative 1 (see Figure 12, page 22), approximately 31 trees in this category will be cut and removed (Table 6). Based upon the drawing of Alternative 2 (see Figure 13, page 24), approximately 33 trees in this category will be cut and removed (Table 7).Based upon the drawing of Alternative 3 (see Figure 15, page 27), approximately 33 trees in this category will be cut and removed (Table 8).

4.8 Impacts To Wildlife

4.8.1 Impact Definitions For Wildlife

Impacts to wildlife include displacement of animals or killing of animals (invertebrates). Negligible impacts are those that are not easily detected and result in no changes in normal variations in population structure or vitality. Minor impacts are those where impacts are detectable, but result in no changes in normal variation in population structure or vitality. Short term impacts are those lasting at most through the construction phase. Moderate term impacts are those that last for one to five years. Long term impacts are those lasting for more than five years.

4.8.2 No Action Alternative Impacts To Wildlife

Impacts to wildlife would be limited to aquatic animals impacted by sediments and diminished water quality due to continuing erosion and runoff at the landing. These impacts are expected to be negligible, but may be minor during storm events.

4.8.3 Preferred Alternative Impacts To Wildlife

Impacts to wildlife are expected to be negligible to minor for large or small vertebrate species, including competition for nesting or breeding sites. Some mature trees would be cleared for the redesigned parking lots and roads. This reduction of the trees and loss of a small amount of habitat is expected to produce minor displacement of small vertebrate species but would not affect their populations. Native plantings in previously impacted areas would somewhat offset this loss of habitat at the project site. However, some small ground dwelling vertebrates and invertebrate species may be disturbed and permanently displaced to adjacent areas. Although vertebrate and invertebrate species of the site have not been surveyed, overall long-term impact is considered negligible or minor as the species disperse to adjacent areas, or return to replanted vegetation.

4.8.4 Alternatives 1, 2 and 3 Impacts To Wildlife

These alternatives are expected to have the same impacts as those described in the Preferred Alternative.

4.8.5 Alternative 4 Impacts To Wildlife

No impacts to wildlife are expected by this alternative. During storm events, there may be a minor beneficial impact to aquatic organisms due to reduction of sediments and pollutants entering the river through runoff from the parking area.

4.9 Impacts To Recreation And Visitor Use

4.9.1 Impact Definitions For Recreation And Visitor Use

Impacts to recreation and visitor use include unsafe conditions, impediments to the use of the landing, excessive noise, and facilities that have poor aesthetics. Negligible impacts are those that are considered within the normal range of access to landings in safe conditions. Minor impacts include the inability to easily access the landing due to congestion or poor traffic flow, closure of the landing during the non-busy part of the season, unsafe conditions in the parking area due to congestion, unscreened noise from the adjacent highway or noise for visitors boating past the landing during construction activities. Moderate impacts include closure of the landing during the busy season, unsafe conditions caused by parking on the highway shoulder and full visibility of the parking facilities when viewed from the river. Short term impacts are those lasting during construction. Moderate term impacts are those lasting 1-5 years, or the time it takes for ground vegetation to mature or shrubs to develop a vegetative screen. Long term impacts are those lasting over 5 years such as trees maturing or the time needed to develop a vegetative screen.

4.9.2 Best Management Practices Common To All Action Alternatives

Construction activities will take place in the off season to minimize impacts to recreation and visitor use. Native vegetation adjacent to construction areas and within loops or parking area islands would be protected to the extent possible. Disturbed soils would be planted with a combination of an annual cover crop and native grasses and forbs. Shrubs and trees will be planted in these areas and to screen parking facilities from the river and the road.

Concern was raised during internal scoping and by the county sheriff's department regarding the potential for increased vandalism to cars and property due to a lack of lighting of visibility of the parking area from the highway. No lighting is planned for any of the alternatives. This area has had a small amount previous vandalism. No changes are expected upon current levels of vandalism under any of the alternatives.

4.9.3 No Action Alternative Impacts To Recreation And Visitor Use

Unsafe conditions would continue to impact visitors. Visitors would continue to park on County K during busy days. Pedestrian use and vehicle use would continue to mix within the parking area and on County K. It is expected that these unsafe conditions would result in a long term moderate impact upon recreation and visitor use and safety at this landing.

This alternative would continue adverse impacts to visitor experience due to a congested parking area, poor traffic flow in the parking and landing areas, and occasional inability to easily access the landing area due to haphazard parking and/or congestion. Primitive and unattractive parking facilities may diminish the experience visitors have when using this landing. A lack of screening of the parking facilities when seen from the river may also have an adverse impact upon visitor enjoyment of the river.

4.9.4 Preferred Alternative Impacts To Recreation And Visitor Use

The proposed project would provide improved parking and access to existing recreational opportunities for Riverway visitors that could enhance their experience in visiting the St. Croix

National Scenic Riverway. Signs and notices at the improved bulletin board would provide an opportunity to orient and educate visitors and thus increase appreciation for the Riverway and reduce unauthorized uses of the area. The number of visitors using this landing is not expected to change as a result of this project.

A beneficial moderate long term impact is expected upon recreational use through better access to safe parking and the landing. A walkway would provide a safe accessible means from the parking area to the landing. In addition there will be improved traffic flow creating easier access to the landing. The site will be more aesthetically pleasing than the current facility and these will be screened from the river. In addition, trees growing between the road and the staging area will improve noise and aesthetics for visitors using the landing. This is expected to be a long term moderate beneficial impact as trees and shrubs grow and mature.

4.9.5 Alternatives 1 and 3 Impacts To Recreation And Visitor Use

Benefits and adverse impacts are similar to those in Preferred with one exception. The location of the main parking area will require most visitors to cross the parking area entrance road resulting in a smaller improvement to visitor safety. This parking area would be less screened from County K due to its close proximity to the highway. This will result in less reduction in noise and less improvement to aesthetics from the current facilities.

4.9.6 Alternatives 2 Impacts To Recreation And Visitor Use

Benefits and adverse impacts are similar to those in Preferred with one exception. The staging area for the landing would be more congested due to its narrow design. This could result in short delays for access to the landing during busy periods.

4.9.7 Alternatives 4 Impacts To Recreation And Visitor Use

Impacts are similar to those in the No Action Alternative with two exceptions. An organized and paved parking area is expected to be more aesthetically pleasing and a better vegetative screen from the river would be developed.

4.10 Impacts To Scenic Resources

4.10.1 Impact Definitions For Scenic Resources

Impacts to scenic resources are primarily the visibility of developed areas and facilities within view of the river. Negligible impacts are those where facilities are undetectable to the extent possible, such as a sign indicating the location of the landing and visibility of the landing itself. Minor impacts are those where some facilities are screened from the river, or the developed area is mostly natural in character or limited in size. Some facilities may be visible but would be partly screened from the river. Minor impacts also include construction activities within view from the river. Short term impacts are those lasting during construction. Moderate term impacts are those lasting 1 - 5 years such as the time needed for shrubs to develop a vegetative screen. Long term impacts are those lasting over 5 years, such as the time needed for trees to mature.

4.10.2 Best Management Practices Common To All Action Alternatives

Native vegetation, grasses, forbs, shrubs and/or trees, would be planted on all disturbed soils to regain as much natural character as possible. Emphasis would be placed upon developing vegetative screens between the parking facilities and the river. Construction activities would take place in the off season to minimize the number of visitors whose scenic view is impacted.

4.10.3 No Action Impacts To Scenic Resources

The scenic view as seen from the river has an adverse impact due to lack of screening of the parking area. The parking area is also visible from County K. These are considered to be a long term adverse minor impacts.

4.10.4 Preferred Alternative Impacts To Scenic Resources

Minor beneficial moderate and long term impacts are expected to the scenic values of the Riverway. Views from both the river and County K of parking, staging and landing areas will be screened or better screened with native vegetation. Minor short term impacts are expected due to construction activities taking place within view of the river.

4.10.5 Alternatives 1, 2 and 3 Impacts To Scenic Resources

Impacts are expected to be the same as those in the Preferred Alternative.

4.10.6 Alternatives 4 Impacts To Scenic Resources

Impacts are expected to be similar to those in the No Action Alternative. Some vegetative screen would be developed but most facilities would continue to be within view of the river. This is expected to be a minor permanent impact to scenic resources.

4.11 Summary Table of Impacts

Table 9: Summary Of Environmental Consequences

Affected Resource	**No Action Alternative:** No change in current facilities, congested and unsafe small parking area, runoff flows into the river	**Preferred Alternative:** New parking area west of existing parking area, new entrance south of the existing lot	**Alternative 1:** New parking area south of existing parking area with oversized vehicles to the west of the existing lot	**Alternative 2:** New parking area west of existing parking area, new entrance on abandoned road bed, move vault toilets	**Alternative 3:** New parking areas west and south of existing parking area, new entrance on abandoned road bed, move vault toilets	**Alternative 4:** Pave current parking area with curbs to divert runoff and driving directly to river, no change in other facilities, congested and small parking area
Geological Resources - Soils	Long-term minor impact as soil is eroded from parking area into the river.	Long-term minor impacts to soils removed, compacted during construction, or covered by pavement. Beneficial long-term minor impacts through reduction of erosion.	Long-term minor impacts to soils removed, compacted during construction, or covered by pavement. Beneficial long-term minor impacts through reduction of erosion.	Long-term minor impacts to soils removed, compacted during construction, or covered by pavement. Beneficial long-term minor impacts through reduction of erosion.	Long-term minor impacts to soils removed, compacted during construction, or covered by pavement. Beneficial long-term minor impacts through reduction of erosion.	Beneficial long-term minor impacts through reduction of erosion.
Air Quality	Negligible or no impact.	Short-term minor impacts during demolition and construction.	Short-term minor impacts during demolition and construction.	Short-term minor impacts during demolition and construction.	Short-term minor impacts during demolition and construction.	Short-term minor impacts during grading and construction.
Noise	Long-term minor impact from traffic and noise upon visitors at landing and parking area.	Short-term moderate impacts due to noise and traffic during construction. Long term beneficial minor impacts from noise due to screening and distancing from the highway.	Short-term moderate impacts due to noise and traffic during construction. Long term beneficial impacts from noise at oversize vehicle parking area due to screening and distancing from the highway.	Short-term moderate impacts due to noise and traffic during construction. Long term beneficial impacts from noise due to screening and distancing from the highway.	Short-term moderate impacts due to noise and traffic during construction. Long term beneficial impacts from noise at oversize vehicle parking area due to screening and distancing from the highway.	Short-term moderate impacts due to noise and traffic during construction. Long-term minor impact from traffic and noise upon visitors at landing and parking area.
Traffic	Long-term minor to moderate impacts from traffic upon visitors at landing, the parking area and due to parking along County K.	Short-term minor to moderate impacts due to traffic during construction. Long term beneficial minor to moderate impacts from traffic due to better traffic flow, less congestion and less or no parking along County K.	Short-term minor to moderate impacts due to traffic during construction. Long term beneficial minor to moderate impacts from traffic due to better traffic flow, less congestion and less or no parking along County K.	Short-term minor to moderate impacts due to traffic during construction. Long term beneficial minor to moderate impacts from traffic due to better traffic flow, less congestion and less or no parking along County K.	Short-term minor to moderate impacts due to traffic during construction. Long term beneficial minor to moderate impacts from traffic due to better traffic flow, less congestion and less or no parking along County K.	Long-term minor to moderate impacts from traffic upon visitors at landing, the parking area and due to parking along County K.
Water Quality	Long-term minor to moderate impacts due to parking lot	Potential for short-term minor impact during storm events.	Potential for short-term minor impact during storm events.	Potential for short-term minor impact during storm events.	Potential for short-term minor impact during storm events.	Long-term beneficial minor to moderate impact due to

Affected Resource	**No Action Alternative:** No change in current facilities, congested and unsafe small parking area, runoff flows into the river	**Preferred Alternative:** New parking area west of existing parking area, new entrance south of the existing lot	**Alternative 1:** New parking area south of existing parking area with oversized vehicles to the west of the existing lot	**Alternative 2:** New parking area west of existing parking area, new entrance on abandoned road bed, move vault toilets	**Alternative 3:** New parking areas west and south of existing parking area, new entrance on abandoned road bed, move vault toilets	**Alternative 4:** Pave current parking area with curbs to divert runoff and driving directly to river, no change in other facilities, congested and small parking area
	runoff flowing into the river.	Long-term beneficial minor or negligible impact due to reduction of parking lot runoff from flowing into the river.	Long-term beneficial minor or negligible impact due to reduction of parking lot runoff from flowing into the river.	Long-term beneficial minor or negligible impact due to reduction of parking lot runoff from flowing into the river.	Long-term beneficial minor or negligible impact due to reduction of parking lot runoff from flowing into the river.	reduction of parking lot runoff from flowing into the river.
Wetlands	No impact.	Long-term minor or negligible impact at minor stream crossing.	Long-term minor or negligible impact at minor stream crossing.	Long-term minor or negligible impact at minor stream crossing.	Long-term minor impact at minor stream crossings.	No impact.
Vegetation	No impact.	Long-term moderate impact through removal of an estimated 43 trees at least 9" in diameter. Beneficial long-term minor impacts through planting of native plants for screening and conversion of part of existing parking area to native vegetation.	Long-term moderate impact through removal of an estimated 31 trees at least 9" in diameter. Beneficial long-term minor impacts through planting of native plants for screening and conversion of part of existing parking area to native vegetation.	Long-term moderate impact through removal of an estimated minimum 33 trees at least 9" in diameter. Beneficial long-term minor impacts through planting of native plants for screening and conversion of part of existing parking area to native vegetation.	Long-term moderate impact through removal of an estimated minimum 34 trees at least 9" in diameter. Beneficial long-term minor impacts through planting of native plants for screening and conversion of part of existing parking area to native vegetation.	No impact.
Wildlife	Long-term negligible to minor impacts due to runoff entering the river.	Long-term minor or negligible impacts due to displacement of small animals.	Long-term minor or negligible impacts due to displacement of small animals.	Long-term minor or negligible impacts due to displacement of small animals.	Long-term minor or negligible impacts due to displacement of small animals.	Long term beneficial negligible to minor impact due to diversion of runoff from parking lot.
Recreation / Visitor Use	Long-term moderate impact due to unsafe conditions in and around the parking area, landing and along County K. Long-term minor impact due to poor aesthetics.	Long-term beneficial moderate impact through improved safety, parking and aesthetics. Long-term beneficial minor impact on visitors using landing and parking areas due to reduced traffic noise. Short-term adverse minor impact due to	Long-term beneficial moderate impact through improved safety, parking and aesthetics. Long-term beneficial minor impact on visitors using landing and parking areas due to reduced traffic noise. Short-term adverse minor impact due to	Long-term beneficial moderate impact through improved safety, parking and aesthetics. Long-term beneficial minor impact on visitors using landing and parking areas due to reduced traffic noise. Short-term adverse minor impact due to	Long-term beneficial moderate impact through improved safety, parking and aesthetics. Long-term beneficial minor impact on visitors using landing and parking areas due to reduced traffic noise. Short-term adverse minor impact due to	Long-term moderate impact due to unsafe conditions in and around the parking area, landing area and along County K.

Affected Resource	**No Action Alternative:** No change in current facilities, congested and unsafe small parking area, runoff flows into the river	**Preferred Alternative:** New parking area west of existing parking area, new entrance south of the existing lot	**Alternative 1:** New parking area south of existing parking area with oversized vehicles to the west of the existing lot	**Alternative 2:** New parking area west of existing parking area, new entrance on abandoned road bed, move vault toilets	**Alternative 3:** New parking areas west and south of existing parking area, new entrance on abandoned road bed, move vault toilets	**Alternative 4:** Pave current parking area with curbs to divert runoff and driving directly to river, no change in other facilities, congested and small parking area
		noise and closure of landing during construction.	noise and closure of landing during construction.	noise and closure of landing during construction.	noise and closure of landing during construction.	
Scenic Resources	Long-term minor impact due to visibility of parking area from river.	Short term minor impacts to scenic resources during construction. Long-term beneficial minor impact due to screening of parking and staging areas.	Short term minor impacts to scenic resources during construction. Long-term beneficial minor impact due to screening of parking and staging areas.	Short term minor impacts to scenic resources during construction. Long-term beneficial minor impact due to screening of parking and staging areas.	Short term minor impacts to scenic resources during construction. Long-term beneficial minor impact due to screening of parking and staging areas.	Long-term adverse minor impact due to visibility of construction activities and parking area from river.

4.12 Evaluation of Impairment

In managing units of the national park system, the National Park Service may undertake actions that have both beneficial and adverse impacts on park resources and values. However, by the provisions of the laws governing the NPS, the Service is prohibited from taking or authorizing any action that would, or is likely to impair park resources or values for which the park was established. What follows here is a discussion of evaluation of impairment for each affected park resource or value that could constitute impairment if adversely impacted.

St. Croix National Scenic Riverway was established for its outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or similar values.

4.12.1 Evaluation of Impairment To Affected Resources Due To No Action Alternative or Alternative 4.

Scenic values are generally referred to those as seen from the water. This project can be seen from the river and will have an effect upon those values. As designed in the preferred alternative, evidence of human presence and development as seen from the river will remain but is considered to be a minor impact. This project will not change the scenic value of the Riverway.
Recreational values include boating and activities associated with boating, use of trails, and other land based activities such as hiking, hunting and fishing. Access to the river for boating and camping would remain but safety hazards would remain. Despite the hazards and poor aesthetics, this project will not derogate these activities.
Geologic values affected are limited to soils. Effects of this project are negligible and would not impair any geologic landform.
Fish and wildlife values include terrestrial and aquatic life forms. Runoff from the parking lot likely has a negligible or minor impact upon aquatic resources. However, the cumulative effect may be greater. Taken by itself, there will not be a derogation of fish and wildlife values at this site or within the Riverway.

Based upon the above statements, no scenic, recreational, geologic, fish or wildlife, or other similar affected values will be impaired by the No Action Alternative or as proposed in Alternative 4.

4.12.2 Evaluation of Impairment To Affected Resources Due To The Preferred Alternative, Alternative 1, Alternative 2 or Alternative 3

Scenic values are generally referred to those as seen from the water. This project can be seen from the river and will have an effect upon those values. As designed in the preferred alternative, evidence of human presence and development as seen from the river will be reduced through construction of parking areas out of view of the river and through vegetative screening of other areas. These alternatives will improve the scenic value of the Riverway.
Recreational values include boating and activities associated with boating, use of trails, and other land based activities such as hiking, hunting and fishing. Access to the river for boating and camping will likely be improved by this project. This project will not derogate these activities.

Geologic values affected are limited to soils. Effects of this project are negligible to minor and would not impair any geologic landform.

Fish and wildlife values include terrestrial and aquatic life forms. Erosion prevention should improve current conditions and thus improve conditions for aquatic life forms. A small number of terrestrial animals will be displaced or removed but the numbers are considered insignificant and populations and ecosystem function will not be affected. Native vegetation will be used in all plantings. There will not be a derogation of fish and wildlife values at this site.

Based upon the above statements, no scenic, recreational, geologic, fish or wildlife, or other similar affected values will be impaired by this project as proposed in the Preferred Alternative, Alternative 1, Alternative 2, or Alternative 3.

5.0 EA CONSULTATIONS

A press release written to solicit input and ideas for this project was sent to the National Park Service's media list and partners list. These lists include government entities, newspapers, television and radio stations within and adjacent to the St. Croix National Scenic Riverway and the Minneapolis-St. Paul region and outfitters known to use the St. Croix and Namekagon rivers. The press release contained a description of likely changes proposed by the preferred alternative at the site and a description of the site. Both the press release and an included cover letter requested input regarding this project.

Internal scoping took place through staff meetings that addressed criteria desired for the project. A National Park Service Landscape Architect from the Midwest Regional Office used these criteria to design possible arrangements of facilities. Further meetings reviewed submitted designs to produce preferred alternatives and recommendations for changes. Three alternative drawings were reviewed with one sent back for modification as the preferred alternative. This drawing continued to be modified resulting in the current Preferred Alternative.

An archeological survey was conducted by the National Park Service Midwest Archeological Center in 2000 prior to planning for this project. A field trip report dated November 10, 2000 discusses the methods, coverage area and what was found. No sign of an archeological site was found and the opinion was that there were no obvious physical features in the immediate area that would suggest there might be a high probability of prehistoric or early historic use of this site. The 2000 survey covered the available expansion area west and northwest of the existing parking area (Figure 8, page 16) but not the available expansion area south of the existing parking lot. Because of the lack of obvious physical features, it is thought that an archeological site here is also unlikely. No archeological or historical site is expected to be disturbed through construction of a new entrance road here.

Riverway staff consulted with the St. Croix and Lac Courte Oreilles bands of the Chippewa prior to release of the draft environmental assessment. Neither band indicated that there are known

traditional or cultural uses or associations or archeological or historical resources at this site, or that this project would have any impact upon these resources.

A draft of this environmental assessment (EA) was reviewed by Joel Trick, Endangered Species Biologist, US Fish and Wildlife Service, Green Bay Field Office, Green Bay, Wisconsin.

A preliminary draft of this environmental assessment (EA) was reviewed by the Midwest Regional Office, National Park Service, in Omaha, Nebraska. Their comments and suggestions are included in the draft EA.

Robin Maercklein was the lead author of this environmental assessment under guidance and consultation with an Interdisciplinary Team of the St. Croix National Scenic Riverway. This team includes:

Chuck Carlson	Ranger, Namekagon District	Sandi Kinzer	Interpreter, Namekagon District
Bob Christiansen	District Foreman	Robin Maercklein	Biologist and lead author
Ron Erickson	Manager, Educational Partnerships Team	Jill Medland	Planning and Compliance Specialist
		Jean Schaeppi	Environmental Specialist
Randy Ferrin	Chief, Resource Management	Robert Whaley	District Ranger, St. Croix District
Bob Kammel	Landscape Architect, NPS	Woody Wimberly	Facility Manager
Charlie Lundin	Ranger, Namekagon District	Marianna Young	GIS Specialist

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7.0 Regulations and Policies

7.1 Endangered Species Act of 1973, as amended

No adverse impacts to listed species are expected as a result of the proposed parking lot construction (USFWS, pers. comm., 2004). Bald eagles nest along the Namekagon River with the nearest nest located approximately four miles upstream of this site, which places it beyond the recommended buffer zones in the Management Guidelines for Bald Eagle Management, St. Croix National Scenic Riverway (NPS 2001). These guidelines are adapted from the Northern States Bald Eagle Recovery Plan (USFWS 1983).

Federally threatened gray wolves reside in the Riverway but none are known to use this area (WDNR 2004). The Riverway is listed as potential habitat for federally threatened Canada lynx (*Lynx canadensis*) but none are known from this area. The federally endangered Karner blue butterfly (*Lycaeides melissa* samuelis) is known from areas adjacent to the Riverway but not anywhere near County K Landing. No impacts are expected to these species.

Should rare species be found to occur at, or in close proximity to the proposed development, the project location and/or design will be reevaluated and/or adjusted in consultation with the U.S. Fish and Wildlife Service. If these measures are taken, there should be no adverse impact to any listed or proposed listed plant or animal species.

7.2 E.O. 11988 Floodplain Management

Part of this area is subject to flooding and is situated in a floodplain. A small part of the landing area is regularly inundated during annual spring floods. This does not include the areas where the majority of construction will take place. The 100 year flood level is approximately 4.5 feet above normal summer levels. This places only the staging area within the 100 year flood level. This is not expected to have any effects upon flood waters or hydrology.

7.3 E.O. 11990 Protection of Wetlands

Impacts to wetlands are considered to be adverse but negligible. The larger wetland would receive no impacts. A small crossing would traverse a small intermittent stream. This project is an "excepted action" as defined by NPS Procedural Manual #77-1: Wetland Protection, Section 4.2.A.1(d): "**Minor** stream crossings using culverts…" It would also meet all the required best management procedures as defined in Appendix 2 of that manual. "Excepted actions" described in that manual are those actions that may be excepted from the Statement of Findings requirements described in Sections 5.3.D and 5.3.E and the compensation requirements discussed in Section 5.2.C of these procedures. There are no other practicable alternatives that address the purpose and need for this project.

7.4 National Historic Preservation Act and E.O. 11593

No known archeological or historical resources are known to exist at this site. The area northwest of the existing parking area was surveyed and no archeological or historical artifacts were located. In addition the terrain of the area does not suggest earlier and it is thought that there is not a high potential for former occupation at this site. In consultation, the St. Croix and Lac Courte Oreilles bands of the Chippewa concurred that there are no known archeological or historical resources at this site. Therefore, no impacts are expected to archeological or historical resources.

7.5 Architectural Barriers Act of 1968 and the Rehabilitation Act of 1973

An accessible walkway will be constructed between the parking area and the canoe landing. The vault toilets are accessible and will remain. Reasonable accommodations will be made to the extent possible.

7.6 Wild and Scenic River Act of 1968

Impacts to a Wild and Scenic River could include impacts to those resources for which the Riverway was established. These include scenic, recreational, geologic, fish and wildlife, historic or cultural resources. Scenic and recreational resources are expected to be beneficially affected. Impacts to geologic, fish or wildlife resources are expected to be negligible or long term beneficial but also negligible in intensity.

7.6.1 Wild and Scenic Rivers Act, Section 7 Evaluation of Direct and Adverse Impacts

The St. Croix River is a component of the National Wild and Scenic Rivers System. As such it is protected under Section 7(a) of the Wild and Scenic Rivers Act (Public Law 90-542). Section 7(a) states that "no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration."

Water resources projects are virtually any projects that would require work below the ordinary high water mark of the river. They include bridges, boat ramps, boat docks, and some types of fish and wildlife enhancement projects. This project would **not** require work below the ordinary

high water mark in the Namekagon River. Therefore, this project is not subject to a Section 7(a) evaluation.